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USSR Report

MILITARY AFFAIRS

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9 August 1984

USSR REPORT MILITARY AFFAIRS

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MILITARY POLITICAL ISSUES

EPISHEV ON PARTY'S ROLE IN WWII VICTORY

Moscow POLITICHESKOYE SAMOOBRAZOVANIYE in Russian No 4, Apr 84 pp 56-64

[Article by Arm Gen A. Yepishev, chief of the Main Political Directorate of the Soviet Army and Navy; under the rubric, "On the 40th Anniversary of the Great Victory": "Lenin's Party--Inspirer and Organizer of the Routing of Imperialism's Striking Forces in the Great Patriotic War"]

[Text] In 1985 workers of the USSR and all progressive people on our planet will commemorate an important date, the 40th anniversary of the great Victory over Hitlerite fascism and Japanese militarism. The period of time separating us from the events of 1945 permits us to see with ever increasing clarity the greatness of the unprecedented feat performed by the Soviet people under the leadership of the Communist Party.

Selflessly defending their socialist homeland, the Soviet people barred the fascist aggressors' path to world domination and provided the peoples of Europe and Asia with direct assistance for ridding themselves of the German and Japanese occupation. This was a great service to mankind by our people and their Armed Forces.

The Soviet Union made the decisive contribution to the achievement of Victory over the militaristic fascist bloc and confirmed with new force the fundamental superiority of socialism over capitalism, of the socialist ideology over the misanthropic ideology of imperialism and fascism. Born of the Great October Revolution, our Soviet social and state system convincingly demonstrated its vitality and insuperable strength to the entire world. The socialist state was the social force which proved to be capable of mobilizing the material and spiritual resources for the devastating defeat of the fascist hordes. This was achieved with the efforts of all the people--the working class, the kolkhoz peasantry the intelligentsia, all the nations and ethnic groups of the Soviet Nation. The front and the rear operated as a single whole.

The victory over imperialism's aggressive forces was of enormous international importance. It altered the balance of power in the world decisively in socialism's favor and was a powerful accelerator of the world revolutionary process, the development of the class struggle in the capitalist nations, the rapid growth

of the national liberation movement of the oppressed peoples, and the downfall of imperialism's colonial system. The world socialist system was formed. Imperialism was deprived of the possibility of controlling the destinies of peoples with impunity, and today it cannot ignore the strength of the socialist states, their active foreign policy and the international solidarity of the forces of peace and progress.

Lenin's party was the organizer and the inspirer of the struggle against imperialism's assault forces. During the difficult war years it united the Soviet people and directed their energy, their will and actions each day toward a single goal--victory. The party's guiding and directing work and its policy were the chief factor assuring success in the just struggle against fascism and militarism.

The war made special demands of the work forms and methods employed by the party and the state and required the restructuring of the nation's life to put it onto a military footing. Guided by Lenin's instructions that "once it has reached the point of war, then everything must be subordinate to the interests of war, all the nation's internal life must be subordinate to the war, and even the slightest hesitation in this matter is impermissible" ("Poln. sobr. soch." [Complete Collected Works], Vol. 41, p. 117), the party did everything possible to turn the nation into a single battle camp.

The decree passed by the SNK [Council of People's Commissars] of the USSR and the VKP(b) [All-Union Communist Party (of Bolsheviks)] Central Committee on 29 June 1941 was an extremely important political document, which defined the tasks and directions for the work of all party, state and management agencies. It indicated the ways to accomplish the main military-political tasks in the struggle against fascism, formulated the just, liberation objectives of the war and its universal, openly class nature, and expressed firm conviction that the invading enemy would inevitably be routed.

The party efficiently accomplished the effective restructuring of all our work, the agencies of state authority and control and the public organizations of the workers. It was deemed necessary to establish extraordinary agencies of leadership and new elements in the administrative system. Headquarters, Main Command of the Armed Forces of the USSR, was created by decision of the VKP(b) and the SNK of the USSR on 23 June. It was later renamed Headquarters, Supreme High Command. It was directly in charge of the combat operations of the army and navy and the partisan forces, and controlled appropriate reserves. On 30 June the Presidium of the USSR Supreme Soviet, the VKP(b) Central Committee and the SNK of the USSR adopted a joint decision to create the State Defense Committee (GKO) in which was concentrated all authority in the nation and state, military and economic leadership. I.V. Stalin was named chairman.

The establishment of the new extraordinary central agencies assured the efficient resolution of questions pertaining to the conduct of the war and the organization, the build-up and supply of the Armed Forces. The GKO adopted and implemented around 10,000 directives and decrees during the war. Naturally, this was not a substitute for and did not weaken the leading role of the VKP(b) Central Committee

and its organs--the Politburo, the Orgbyuro [Organizational Buro] and the Secretariat--in the direction of the armed struggle and in the determination of the Soviet State's foreign and domestic policy. There were more than 200 meetings of these leading party organs during the war.

The GKO based its decisions on party documents, and many matters were discussed at joint meetings of members of the Politburo and the GKO or the Politburo and Headquarters, while the more important issues were discussed by the Politburo, the GKO and Headquarters together with the participation of people's commissars, workers with the SNK and Gosplan of the USSR, and the commanders of fronts, services of the Armed Forces and branches of troops. The coordinated system for directing the nation, welded together by a single will and iron discipline, which developed during the first months of the war, withstood all the tests of the difficult times.

Distinguishing features of the party's political leadership, such as a profound scientific basis, revolutionary vigor and purposiveness, its specific and realistic nature, its firmness and steadfastness in the execution of the assigned tasks, were especially brilliantly manifested during the years of the Great Patriotic War. The party defined ways to achieve the comprehensive accomplishment of the extremely difficult national economic tasks facing the nation and implemented a number of extremely important measures to mobilize all forces for repelling the enemy. Technical and material, financial and labor resources were redistributed in the interests of military production. A total of 1,523 industrial enterprises were transferred to rear areas and set up there, and more than 10 million people were evacuated during the first 6 months of the war. The functioning of the soviets, trade unions, the Komsomol and other public organizations was restructured to put it onto a military footing.

Party and soviet organizations and military commissariates carried out military mobilization work of unprecedented scope during the beginning of the war. Reservists of more than 30 ages were drafted within an extremely short period of time. Around 60 divisions of people's militia were formed at the initiative of local party organizations during the difficult summer and fall of 1941, when there was a severe shortage of reserves due to extensive losses at the front. The workers formed paramilitary detachments and battalions for combatting enemy saboteurs, spies and parachutists and for protecting important state facilities. As a result of the military mobilization steps taken by the party the field army was enlarged by 291 divisions and 94 brigades between 22 June and 1 December 1941.

There was also a redistribution of forces within the party itself. Many communists transferred from civilian organizations to military ones. A total of 1.1 million communists, a third of the membership of the territorial party organizations, entered the army or navy during the first 6 months of the war alone.

In the difficult wartime conditions the party focused the efforts of scientists, literary figures and artists, workers in public education and those of the higher school and ideological institutions on satisfying the needs of the front

and the rear area and on the patriotic and internationalist indoctrination of the masses.

The Communist Party worked out and implemented its foreign policy course in inseparable concurrence with its domestic policy. It carefully studied trends in the development of international events and thoroughly analyzed conflicts among the imperialist states and the distribution of socio-political forces in the world arena. The party and the Soviet State strove to unite the efforts of nations, peoples, political organizations and social forces taking part in the anti-fascist struggle, to create international conditions conducive to the defeat of the militaristic fascist bloc and to assure a post-war restructuring of the world based on just and democratic principles.

Due to the Soviet State's exceptionally flexible and perspicacious foreign policy our people and their Armed Forces, who fought fascism heroically, were assured increasing authority and powerful support. The peoples and armies of states in the anti-Hitlerite coalition made a large contribution to the common victory over the enemy. This was a practical demonstration of the possibility of effective political and military cooperation by states with different social systems.

During the years of the Great Patriotic War Lenin's party gained even greater love and respect from millions of Soviet people. The people trusted the party, and it justified that trust with honor. The monolithic unity of the party and the people was a crucial factor in the great Victory.

The Communist Party, which became a fighting party during the very first days of the war, focused its main attention on military organizational work and on directing the armed struggle. It constantly dealt with the matters of enhancing the combat strength of the Armed Forces, providing them with the necessary personnel, increasing the quantity and improving the quality of weapons and combat equipment, the political and moral condition of the fighting man, the training of military cadres, the conduct of large-scale operations at the fronts, the development of military science and military art, and many other matters.

The system worked out by the party for organizing the forces assured the rapid deployment of the Soviet Armed Forces. The nation's extensive mobilizational capabilities and the purposive utilization of its human resources made it possible to increase the numerical strength of our forces year by year. During the war more than 20 million people were drafted into the army. By May of 1945 the total numerical strength of the Armed Forces of the USSR had increased three-fold over the figure for the beginning of 1941, reaching 11.4 million.

The party performed an enormous amount of work to train and indoctrinate military cadres. At the beginning of the war 650,000 commanders and political workers were called up from the reserve. Party and soviet cadres were confidently advanced to command and political positions in the army. There was an extensive network of various courses for training commanders. Tens of thousands of officers underwent training right in the frontline units. Admissions to military and military political schools and the academies were increased. In all, around 2 million officers were trained during the war.

The mobilizing of communists and Komsomol members for the front was an extremely important condition for providing the field army with experienced leading cadres. During the first 6 months of the war alone 8,800 party and around 9,400 Komsomol were assigned to the Soviet Army. A total of 60,000 communists and 40,000 Komsomol members entered the field army as political fighters. Communists and Komsomol members made up most of the people's militia divisions and paramilitary battalions which were formed. By the beginning of 1943 50.3% of all the members and candidate members of the VDP(b) were in party organizations in the Armed Forces.

During the very first months of the war the VKP(b) Central Committee passed a number of decrees aimed at assuring growth of the army party organizations with servicemen who had distinguished themselves in combat. An average of 100,000 of these servicemen were accepted as candidate party members each month during the period 1942-1944. Between 1 July 1941 and 1 July 1945 3.8 million fighting men became party candidates and 2.4 million became party members.

The attention of the Communist Party and its directing organs was focused constantly on improving party-political work and on the ideological indoctrination of personnel. The war convincingly confirmed the Leninist principle that victory depends greatly upon the spiritual strength and the good moral qualities and fighting efficiency of soldiers and officers and of workers in the rear. Lenin regarded the ideological conviction and awareness of the homeland's defenders and their moral stamina as the determining factor in the enemy's defeat. "In any war," he stressed, "victory is ultimately produced by the spiritual state of those masses who shed their blood on the battlefield" (Vol. 41, p. 121).

The party assigned specific tasks to the people and the Armed Forces in each phase of the Great Patriotic War. They were defined in party documents and were formulated in talks and orders from the Supreme Commander. The party's slogan, "The enemy will be crushed! Victory will be ours!", became the fighting program of each communist and Komsomol member, each soldier and each worker in the rear area.

The structural improvement of the political organs helped to strengthen the Armed Forces and increase their combat strength. The political propaganda sections and directorates were converted into political sections and political directorates in July of 1941, and the institution of military commissars and political instructors was established. The commander and the commissar bore complete responsibility for the accomplishment of the mission by the unit and the formation, for the steadfastness of the fighting men in battle and for their unshakeable preparedness to battle the homeland's enemies to the last drop of blood. The military commissars were the agents of the Leninist party's revolutionary spirit, of its iron discipline, firmness and courage in the struggle. The institution of military commissars was abolished in the fall of 1942, when the command cadres had acquired experience in directing the combat operations and the political work.

In all sectors of the war the communists undeviatingly fulfilled Lenin's precept to be "ahead of the others on the front" (Vol.39, p. 245). The appeal "Communists, forward!", which was not covered by any sort of military regulations, was invariably heard wherever the situation was especially difficult. And they rose to the attack, remembering that the communists have only one privilege--to be on the main axis, there where the outcome of the battle is determined.

The party also concentrated the strength of the communists in the most important sectors of industry, transport and agriculture, efficiently resolving questions of material and technical supply for the field army, of providing it with everything necessary. The defense industry is a vivid example of this. Special sections in charge of the most important branches of the defense industry--tanks, aviation and ammunition--as well as the production of metal, fuel and electric energy, were set up in the party committees at large industrial centers, especially in the eastern part of the nation, to which military production was moved when the war began. The party Central Committee sent many thousands of communists to the Volga region, the Urals, Siberia, Kazakhstan and Central Asia. The VKP(b) Central Committee's institution of party organs was promptly and efficiently strengthened at leading industrial enterprises. A system of political organs functioned in the transport organizations. They were subordinate to the Political Directorate of the People's Commissariat of Railways, which operated with the authority of a section of the VKP(b) Central Committee. Political sections of the MTS [machine and tractor stations] and the sovkhoses were directed by political directorates under the people's commissariats of agriculture and sovkhoses of the USSR and the Union republics, as well as by the political sections of kray and oblast land administrations.

By using the advantages of the Soviet social and state structure and the socialist system of management, the party and its Central Committee thus developed and implemented a military-economic and military-technical policy which made it possible to provide the Armed Forces with weapons and combat equipment superior to that of the enemy. During the war the Soviet military economy increased the production of tanks seven- to eight-fold, artillery pieces--six- to seven-fold, mortars--eight-fold, and ammunition--four-fold. By January of 1945 the Soviet Armed Forces had a 7.4-fold superiority over the enemy in aircraft, 2.8-fold in tanks and SAU [self-propelled artillery pieces], and 3.2-fold in artillery and mortars.

The mass production of all types of weapons and combat equipment was based on the achievements of advanced science and of military-technical thinking. The subjects of scientific research and the work of the scientific organizations were subordinated to the objective of increasing the battle strength of the Soviet Armed Forces. As a result of the tireless concern and attention of central and local party organs the achievements of Soviet scientists were immediately put to use--in the development of Soviet aviation, tank construction, and the development of artillery systems and new models of arms and ammunition. The troops at the front were constantly receiving modern, new aircraft, tanks, artillery guns, small arms and highly reliable optical instruments and communication equipment.

The high degree of technical equipment of the Armed Forces, which was one of the most important components of their combat capability, permitted the Soviet military command to plan and implement strategic operations unprecedented in the history of military art and to achieve the defeat of the huge groupings of fascist forces. A total of 51 strategic operations, including 35 offensive operations, were carried out during the Great Patriotic War. In the course of those operations our troops crushed the enemy's main armed forces. Fascist Germany and its allies lost 607 divisions on the Soviet-German front. The operations conducted by the Soviet Armed Forces were brilliant pages in the chronicle of the Great Patriotic War.

The party gave daily attention to its direction of the universal resistance in the enemy's rear area. Hundreds of party workers and thousands of communists and Komsomol members were assigned to underground work, and there was an extensive network of party organizations and committees formed in territory temporarily occupied by the fascists. During various periods the Soviet people's struggle against the occupiers was led by 90 underground obkoms, oblast party centers, okrug committees and inter-rayon party centers, and 620 gorkoms, raykoms, rayon party centers, rayon party groups, uyezd and volost party committees.

Special organs--party movement headquarters headed by leading party workers--were formed to provide military leadership of the partisan movement. These headquarters were also set up in the military councils of the fronts. All of these organs skillfully directed the work of the partisan forces and supported their interaction with Soviet Army units. They performed a great service in the training of cadres to conduct partisan and underground work in the enemy's rear area and to provide the people's avengers with weapons and ammunition.

The experience of the partisan struggle was summarized and future tasks were outlined at conferences of party workers, commanders and commissars of the partisan formations, jointly with workers of the VKP(b) Central Committee, The People's Commissariat of Defense and the Central Headquarters of the Partisan Movement, conducted by the Central Committee in August and September of 1942. This did a great deal to enhance the partisan movement's effectiveness.

The results of the war demonstrated that the Communist Party knew to perfection the art of concentrating efforts on the main tasks. Relying on Lenin's concepts of defending the socialist homeland, it directed the entire course of the armed struggle, the life and work of the Soviet rear area and resistance to the enemy in temporarily occupied territory, thereby naturally leading the Soviet people to a victory of worldwide historical significance.

The party's ideological work assumed unprecedented scope during the Great Patriotic War. All means of ideological influence were subordinated to the job of defending the homeland, including the press and radio, film and information agencies, literature and art, and cultural and educational institutions. Millions of communists and non-party Soviet people became propagandists and agitators. Extensive indoctrinational work was launched

by the Komsomol, the trade unions, defense and other public associations of the workers under the leadership of party organizations.

The party's ideological work was active and multifaceted and was performed on a differentiated basis, taking into account the military-political situation and the tasks being carried out by the front and the rear area during the various phases of the war. The party Central Committee headed this work. More than half of the plenums of republic communist party central committees, kraykoms and obkoms held during the war discussed questions of ideological and political indoctrination.

The party Central Committee attached great importance to oral agitation and propaganda, which was performed with the slogan: "Everything for the front, everything for victory!". Anti-fascist meetings, political reports and lectures, correspondence between workers in the rear area and the fighting men, and meetings with frontline fighters, partisans and delegations visiting the front from the labor collectives had an important place in this work. Leading party and soviet workers addressed numerous mass meetings, letters of mandate were sent to fighting men from the local areas, and glorious patriotic movements were born.

The works of the Marxist-Leninist classics on war and the army and on the defense of the socialist homeland were issued in large-scale printings during the war. Books and pamphlets on the just, liberation nature of the Great Patriotic War, on the mass heroism of the Soviet fighting men and on the revolutionary, labor and combat traditions of the Soviet people were published and enjoyed enormous demand.

The substance of all the Leninist party's multifacet ideological work was closely linked with life and was distinguished by its specific nature, its purposiveness and its aggressive, combat spirit. Thanks to the purposive work performed in the masses and to the great vital force of the Communist Party's concepts, the Soviet Union gained a brilliant moral and political victory over the enemy. Overcoming the difficulties and hardships of wartime, the Soviet people rallied even more closely round the party and the government and demonstrated their loyalty to the socialist ideas. All our people forged the victory over fascism. The successes achieved at the front and in the rear area were a result of the international unity and the inviolable friendship of peoples of the USSR.

The enemy was unable to daunt the multinational Soviet State, which is founded on the Leninist principles of true equality for peoples large and small. The imperialists' hopes that national conflicts would arise in our nation were shattered. Indoctrinated in a spirit of friendship of peoples and of proletarian internationalism, the workers of all nationalities in the USSR took an active part in the struggle against Hitlerite fascism and Japanese militarism. The populations of temporarily occupied areas scornfully rejected the Hitlerite "new order" and remained loyal to the concepts of socialism.

The increased political awareness of the Soviet people was expressed in specific patriotic deeds and served as a source of steadfastness and courage for fighting

men at the front, for partisans and underground workers in the enemy's rear area, and was embodied in the mass heroism demonstrated by defenders of the socialist homeland.

More than 7 million soldiers, sailors, sergeants, petty officers, officers, generals and admirals were awarded orders and medals of the Soviet Union during the war. Almost three-fourths of all the Heroes of the Soviet Union were communists. The names of 300 Soviet fighting men were entered in perpetuity on the personnel rosters of units, ships and military schools for performing immortal feats. They included 134 communists.

Soviet people in the rear area demonstrated courage and mass labor heroism. All of their plans and deeds focused on a single goal--to provide the front with the greatest possible quantity of products of the very highest quality. "Work not just for yourself but also for your comrade who has gone to the front,"--this was the slogan of workers in the rear area. The movement of the two hundred to exceed planned quotas and the movement of the Komsomol-youth brigades with the slogan "In labor as in combat!" assumed enormous scope. Women, pensioners and adolescents replaced in production those who left for the front.

One of the important features of the party's ideological work during the war was a purposive campaign against propaganda, the exposure of fascist misanthropic ideology and the undermining of the moral and political underpinnings of the enemy's military strength. A decree passed by the VKP(b) Central Committee and the USSR Council of People's Commissars on 24 June 1941 on the creation of the Soviet Information Bureau stated that the organization of counter-propaganda against German and other hostile propaganda was one of the most important tasks. Hostile imperialist propaganda was exposed in the press, in radio broadcasts, in reports issued by the Soviet Information Bureau, lectures and talks. A great deal of attention was devoted to the publication of Soviet articles in the foreign press.

The powerful ideological offensive begun at the party's initiative during the first days of the war grew by the year. The monstrous crimes of the Hitlerite invaders were exposed, and the terrible danger posed for mankind by fascism and its ideology was demonstrated. The morale of the enemy forces fell and the German population's dissatisfaction with the Nazi regime grew under the influence of Soviet propaganda and of the successes achieved by our troops on the fronts. Hitlerite Germany's collapse also meant the failure of its state ideology. Fascism suffered total bankruptcy in its encounter with socialist ideology.

Almost 40 years have passed since the Great Patriotic War ended, since fascism was dealt a devastating military, political, economic and ideological defeat. The experience and the lessons from those events teach us that we must expose imperialism's aggressive intrigues, frustrate its plans, repel its dangerous operations and conduct an active campaign against the ideology of war, against anti-communism and anti-Sovietism. This is all the more important since the danger of a new world war is not past. The reactionary militaristic forces of

the USA and NATO have become more active in recent years. This has resulted in major complication of the international situation. It is characterized by an exacerbation of tensions, which continues through the fault of imperialism, primarily the USA, by the destabilization of inter-state relations and by the increased danger of nuclear war with its catastrophic consequences. The arms race has taken on an unprecedented scale. Programs are being implemented for the production and deployment of new strategic, land-based, naval and air nuclear weapons. Space warfare systems are being developed, fundamentally new systems of conventional weapons are being created and military outlays are increasing drastically. New American missiles are being deployed in Europe.

Imperialism's reckless policy is a policy of aggression and brute force. It is manifested especially in the endeavors of the USA and its allies in NATO to destroy the existing military balance, which serves as the basis for international security, no matter what. By deploying Pershing 2 and cruise missiles on the threshold of our home, they seek to erect a nuclear missile base for the adventuristic slogan of a "crusade" against socialism as a social system.

In this situation the CPSU and the Soviet State are engaged in a persistent struggle for peace and international security. The prevention of war, especially nuclear war, is the keystone of our nation's foreign policy. The Soviet Union is a confirmed proponent of resolving complex international problems at the negotiating table. It is for serious negotiations, however, and not those which could be used as a screen for militaristic plans.

Taking into account the drastic activation of the policy of American imperialism's more aggressive forces--a policy of open militarism, aspiration to world domination, resistance to progress and the violation of the rights and liberties of peoples, the Communist Party and the Soviet state are giving serious attention to the strengthening of the national defense and concerning themselves with the security of workers of the USSR, their friends and allies. "And let everyone understand," Comrade K.U. Chernenko stressed in a speech at a meeting with electors of Moscow's Kuybyshev Electoral District, "that no fanciers of military adventures will succeed in taking us unaware, that no potential aggressor can hope to avoid a devastating retaliatory strike."

The valorous Armed Forces of the USSR, directed by the Communist Party, are reliably guarding our socialist homeland and the peaceful, creative labor of the Soviet people, and they will continue to do so. Fightingmen of the Army and Navy are persistently perfecting their political training and their military skill and striving to further enhance the combat readiness of the formations, units and ships. In single combat formation with fightingmen in the armies of the fraternal socialist nations, they are also prepared to fulfill their patriotic and international duty.

Along with all the Soviet people, fightingmen of the Army and Navy fervently approve and actively support the CPSU's foreign and domestic policy, knowing well that the party is leading us along the Leninist path toward new accomplishments, on a scientifically adjusted course of peace and communist creativity.

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MILITARY-POLITICAL ISSUES

LOCAL MILITARY COMMISSARIATS FAULTED

Moscow KRASNAYA ZVEZDA in Russian 20 May 84 p 1

[Lead article: "Military Commissariat"]

[Text] Let us recall the first days of the Great Patriotic War. The many distinctive features of that terrible time which reflected the readiness and willingness of our entire people to defend the homeland included the crowds of people at the military commissariats. And these crowds included not only persons who had received a conscription notice. Men and women, people of all ages, motivated by a patriotic desire to take their place among the fighting ranks of the defenders of the homeland came to volunteer. Stern music played: "Arise, o vast country...", and fiery instructions rang out to those who were leaving for the front.... The great prestige and social role of the military commissariats, which gave millions of Soviet patriots their marching orders into battle, to defense of the homeland, was brought out with great forcefulness on those days.

The military commissariats were born in April 1918, when the party's appeal "The socialist homeland is in danger!" sounded the alarm over the young Soviet nation. The Council of People's Commissars decree on establishment of military commissariats was signed by V. I. Lenin. Having played an important role in the creation of our armed forces and in securing victory in the Civil War, at all stages in the development of our nation the military commissariats have made a worthy contribution toward strengthening the defense of the socialist homeland, toward the development and improvement of the Soviet Armed Forces.

The military commissariats have played an important role in implementing party policy in the area of military organizational development and in increasing our country's defense capability in the present day. The world situation remains extremely dangerous. Reactionary imperialist circles, particularly the United States, are counting on military force, on gaining military superiority, and are nurturing insane plans to wipe out socialism as a political system. In these conditions, noted CPSU Central Committee General Secretary Comrade K. U. Chernenko, chairman of the Presidium of the USSR Supreme Soviet, "...we shall continue in the future concerning ourselves with strengthening our country's defense capability, ensuring

that we have sufficient resources and means with which we can cool the militant adventurist hotheads."

Specific tasks proceed from the decisions of the 26th CPSU Congress and subsequent party Central Committee plenums for the military commissariats as well -- to work persistently to make their work more efficient and to take more fully into account thereby demands on troop combat and mobilization readiness, ideological-political and military-patriotic indoctrination of youth, for basic military and preinduction training of young boys.

We have many military commissariats which are successfully carrying out their responsible tasks. Excellent results in preparing replacements for the army and navy have been achieved, for example, by the Moscow and Leningrad city military commissariats, the Brest and Donetsk oblast military commissariats, and many other local military administrative agencies. The military commissariat of the town of Berdsk, for example, is well known in Novosibirsk Oblast. They have established a smoothly functioning system of military-patriotic indoctrination of youth and preparation of young men for military service. Future serviceman clubs have been formed at the town's enterprises, where get-togethers with war and labor veterans are held on a regular basis; festive ceremonies to send off young men to the military have become a tradition, good facilities have been established at the schools for basic military training, and detachments of red pathfinders are operating. Classes conducted by reserve officers are distinguished by excellent quality. An assistance committee attached to the military commissariat is working actively. Military commissar Lt Col A. Yevtushenko has been awarded the Order of the Red Star. He is a deputy to the municipal Soviet and a member of the CPSU city committee.

A great deal of respect is enjoyed by the military commissariat in Sovetskiy Rayon in the city of Minsk, and in Moskovskiy Rayon in the city of Riga. The officers in charge, Cols A. Goryachev and V. Kostin, also hold high state decorations. In the Kirghiz SSR the Sokulukskiy Rayon military commissariat is famous for its accomplishments. This rayon's military commissar, Lt Col O. Salambekov, military commissariat officer Maj Yu. Stetsenko, who can be seen in the above photograph taken with inductees [not reproduced], and other personnel work with initiative and a sense of responsibility.

Military commissariats possess the authority of departments of the Council of Ministers of union and autonomous republics, executive committees of kray, oblast, city and rayon soviets. A most important condition for their successful activities is daily help and assistance on the part of local party and soviet agencies and close contact with Komsomol committees, civil defense headquarters, and DOSAAF organizations.

The strength of military commissariats lies in support by the great army of activist veterans, reserve and retired officers, other reserve-status military personnel, and the people at enterprises and establishments. Their work is focused on workforces and educational institutions. A great many invisible threads link the military commissariats with plants, kolkhozes, sovkhoses, general-curriculum schools, vocational schools, and with the families of Soviet citizens. The triumph of Leninist ideas on the

indissoluble unity between army and people is graphically manifested in their joint activities.

The military commissariats possess considerable powers and capabilities. But they also possess great responsibility. Unfortunately, however, not all of them are carrying out their assigned tasks in full measure and with excellent quality. Some places the level of mobilization work still fails to meet today's demands. Certain military commissariats fail to display proper concern about the quality of preparing youth for military service and about the effectiveness of training courses. There also still occur instances of an excessively formalistic, bureaucratic attitude toward handling letters and requests dealing with drawing up documents connected with performance of military service and doing the paperwork for crediting pension awards to officer personnel, warrant officers, compulsory-service and extended-service enlisted personnel and their families, as well as other matters. For example, instances of a wrong, callous attitude toward the needs and requirements of the families of military personnel have occurred at the Kostroma Oblast military commissariat, for which certain officials have been meted out severe administrative and party punishment. It is rare, but one still encounters instances of abuse of office on the part of certain military commissariat officers.

The military commissariat is an element of our valiant Armed Forces which, as was emphasized at the June (1983) CPSU Central Committee Plenum, the people rightly call a school of courage, industry and strong morality. Often military commissariat staff members are the sole representatives of the army and navy in a town. This means higher demands as regards their discipline and appearance, and it is even more important that each and every military commissariat serve as an example of organization, observance of regulations, and a sensitive, considerate attitude toward visitors.

Improvement in the level of the organizational and indoctrinational work of military commissariats is a constant concern of district military councils, political directorates, and headquarters. It is essential to improve the commander training of military commissariat officers, toward this end to strengthen their contacts with military units and military educational institutions. It is also necessary to devote attention to such items as the location of military commissariats and furnishing them with equipment and teaching materials. More and more military commissariats are housed in fine, modern buildings, but some are still operating in crowded conditions and lack the necessary space. Local party and soviet agencies should play an important role in resolving problems connected with increasing the work effectiveness of military commissariats, their location, and provision of housing to military commissariat personnel.

It is the duty of political sections and party organizations of military commissariats to work persistently to increase the awareness of responsibility of party members and all personnel for the assigned job, to create in the collectives an atmosphere of strong demandingness and integrity, as well as intolerance toward shortcomings. It is important to achieve improvement in the activities of trade union and Komsomol organizations and more fully to utilize socialist competition for development of innovative activeness on the

part of all personnel. New and important tasks face the military commissariats, their political agencies and party organizations in connection with preparations to celebrate the 40th anniversary of the Victory of the Soviet people in the Great Patriotic War. They are called upon, relying on and supported by veterans, to make every effort to step up their activities in the area of heroic-patriotic indoctrination of the rising generation. "Nobody and nothing has been forgotten!" goes one of the moral laws governing the life of the Soviet society. It is an important duty of the military commissariats to work unswervingly to implement it, to work to perpetuate the memory of our heroes, and properly to honor the memory of our combat veterans.

The military commissariat.... It is figuratively called the waiting room of the USSR Ministry of Defense in the village, in the worker community, in the city and town. This comparison indicates a great responsibility. May the role of the military commissariats -- an important component in ensuring reliable defense of the achievements of socialism -- continue to grow in the future.

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CSO: 1801/335

MILITARY-POLITICAL ISSUES

PRO FORMA ATTITUDE TO POLITICAL LIFE ASSAILED

Moscow KRASNAYA ZVEZDA in Russian 18 May 84 p 2

[Article, published under the heading "Party Affairs: Returning to What Has Been Printed," by KRASNAYA ZVEZDA correspondent Maj N. Belan: "They Garbed a Lie in Papers"]

[Text] Capt N. Vetokhin, air defense subunit deputy commander for political affairs, spoke rapidly and with intense feeling, hastening to say his piece before the train arrived. He spoke about how the report and election party meeting which had been held the previous day had provided an impetus to think, to examine self-critically the state of ideological and political indoctrination work in the subunit, to set to work as is demanded by the June (1983) CPSU Central Committee Plenum. I heard the same thing from party bureau secretary A. Obryadin, and now, as I was departing, I had no doubt that the men would improve, particularly since the deputy chief of the regimental political section, Maj V. Galitskiy, had given assurance: "We shall help them."

"Come back 3 months hence and you will see for yourself," said Captain Vetokhin.

This thought was bolstered by Major Galitskiy and the chief of the higher-echelon political agency. However, in response to the critical report entitled "In the Old Way and in the New Way," which appeared in the 16 November 1983 issue of KRASNAYA ZVEZDA, Maj Gen Yu. Yevdokimov commented: "Work to correct the noted deficiencies and to respond to the critical comments is continuing."

Half a year has passed rather than 3 months, and here we are back at that same subunit, once again discussing the same topic....

* * *

...In the final analysis the matter had to be stated as follows: enough of this foisting off phony results and claiming that which is desired as that which has been achieved.

"You see," explained Senior Lieutenant Obryadin in an attempt to justify, "we want to give a visitor the best possible impression."

This is understandable, but in this case the difference is also obvious -- what is a sincere attempt to show accomplishment, and what are merely attempts to deceive. There was plenty of the latter. And it all began with the question of how the agitation and propaganda group had participated in preparations for elections to the USSR Supreme Soviet.

"With vigorous activity," replied Captain Vetokhin and pulled out a schedule showing five lectures. But I immediately ascertained that two of them had not taken place. And as for the one which Captain Vetokhin was supposed to have prepared but did not do so -- a party rayon committee official had spoken in his place. A lecture by Lt Col V. Soynikov had taken place.

"And here is the fifth," Captain Vetokhin extended to me a text printed on a rotary duplicator. "We got it at the party rayon committee."

But these were materials to help the propagandist on a totally different topic.

"What's the difference?"

Nor had there taken place an evening of questions and answers on the Soviet system of elections, although the schedule indicated something else. And a film festival on Soviets of People's Deputies was also marked "completed." I asked about it. It seems that the whole thing had amounted to viewing a single film. But the word "festival" sounds so good in a report!

Let us analyze the participation by party members in another political campaign -- preparations for the All-Union Communist Volunteer Saturday.

"We held a Lenin reading," announced Senior Lieutenant Obryadin with pride. "About a Communist attitude toward labor."

We discussed this reading in detail, determining which of Lenin's writings had been examined and how a linkage with the present day had been established. Obryadin spoke with enthusiasm, presenting an impressive picture, until my ears pricked up at the following detail: the reading was conducted by secretaries, but what secretaries?

"Komsomol secretaries," Obryadin replied hesitatingly, and proceeded to enumerate names: Pfc so-and-so...."

"What do you mean?"

"Wait a minute, that was wrong," Obryadin recalled. "Secretaries -- that was me and the Komsomol committee secretary. The fact is that I did not take part, but Lieutenant Agaf'yev did a fine job."

I went to see Lt A. Agaf'yev.

"Lenin reading? First I've heard of it. Anyway, I was on duty that day...." So that was it. And Senior Lieutenant Obryadin and I had discussed the matter in such detail in our conversation! It was distressing.... Just as it was distressing to see a pile of all kinds of schedules with the unexpectedly appearing notations: "Additionally carried out" -- these notations had not been there the previous day. In all this following a garden-variety question: what are you doing to celebrate the 40th anniversary of Victory? In place of specific work I was shown papers, on which it was written, for example, that in February they had additionally held a special evening activity entitled "Forever in the Memory of the People" -- a check once again revealed deception. Therefore I asked them to refrain from producing phony schedules.

Then Captain Vetokhin proceeded to invoke the specific features of the job activities of the men of the subunit, as well as making reference to objective difficulties. He claimed that it was impossible to do a lot of mass-political work with them, that emphasis was placed on individual forms. But the following indicates just what he meant by "specific features": Marxist-Leninist training of officers came to a virtual standstill in the winter period. The most recent class had been held on 26 January.

"We shall make up for it," promised Captain Vetokhin, who incidentally is a group instructor.

They will catch up? But how?

And how can they make up for another thing -- in the subunit the political instruction group leaders have not been given a single instructional methods report on the current topic; they have even been replaced by merely giving instructions, "pep talks." In addition, consider what kind of quality there was to the scheduled training of volunteer propagandists here when such "seminars" lasted about 20 minutes apiece, once in a while extending to an hour at most? Incidentally, one can reach a conclusion on this from the notes on the lectures I looked through which the political instruction group leaders had. They were all alike, like to two peas in a pod. Nor did the officers conceal the fact that they used nothing but magazine workups and not a single source other than that. How could there be any talk about improving political indoctrination work in the spirit of current party demands if work with propagandists has been so neglected?

I attended a political briefing session conducted by Sr Lt A. Petrenko. This officer omitted a great deal of that about which he should have spoken. I had this feeling that he had no lesson plan whatsoever. What he did have was only enough for half the time allocated for the political briefing session. Beyond that he simply did not know what to discuss.

I could go on and on, detailing shortcomings. The fact is that they were discussed at party meetings and party buro sessions. Capt V. Klyuyev noted, for example, in the buro: "There is no agitation and propaganda group functioning on the elections." And yet here are excerpts from the transcripts of the last two party meetings. Lt A. Agaf'yev: "A great many various plans and schedules are put together in this outfit; they are not coordinated, and

therefore there is a good deal of attention to form with detriment to content." Capt Yu. Khol'm made a sharper comment: "A good deal of what is decided at party meetings remains on paper alone...."

This hits the nail right on the head.

Of course the brunt of the blame for the present situation rests primarily on the shoulders of the subunit's leader-Communists. But the regimental political section must also share the blame. Putting it frankly: what kind of a leadership style has taken root here if none of the people from the regimental political section knew about existing deficiencies and were satisfied with cheerful reports over the telephone, with which Captain Vetokhin is so generous? And this after that memorable party report-election meeting following the article in KRASNAYA ZVEZDA.

I spoke with the political section chief, Maj Yu. Khromov, and his deputy, Maj V. Galitskiy.

"Of course we issued instructions, summoned Captain Vetokhin, and received a report from him," they told me.

But what possible benefit could have been derived from these encounters if the cart, as they say, has not budged?

We must work earnestly to teach the Communists of this party organization to ensure that in their work, as was stressed by K. U. Chernenko, a Leninist style, in all its diversity and richness, becomes a necessity of the soul, an indispensable work tool," for if even a single political worker from even a single political agency dug a little deeper in the subunit, he would notice that meetings here engender meetings (following the report and election meeting they scheduled 4 additional meetings, 3 party buro meetings, and 5 conferences), plans beget new plans, and these conversations and churning out of paper go on without end. There is also another important point: to help people to see, so to speak, the strategy and tactics of ideological and political indoctrination work, future prospects, and that which is of vital importance. Finally, the most simple thing is needed -- to teach people to plan and execute plans and schedules, to be responsible for the assigned task, and not mechanically to attribute good marks for alert duty to indoctrinational work with personnel. Incidentally, this was all stated in the article "In the Old Way and in the New Way"; one must repeat what has been said.

...Captain Vetokhin, bidding farewell, offered: "I shall retrieve all the papers and come to the newspaper office and show you."

What was this officer planning to "retrieve"? Unread lectures, scenarios of unheld special evening activities, or log in comments on unheld Marxist-Leninist officer training classes? I again felt distress: evidently they had not yet grasped the main point....

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ARMED FORCES

UNCOOPERATIVE MILITARY BUREAUCRATS FAULTED

Moscow KRASNAYA ZVEZDA in Russian 22 May 84 p 4

[Article by KRASNAYA ZVEZDA correspondent Capt 2nd Rank P. Kuznetsov: "They Could Have Resolved It on the Spot: Report From the Reception Room at KRASNAYA ZVEZDA"]

[Text] She was unable to come to the newspaper personally. At the age of 83 one does not always even dare to venture down into the building courtyard from the fifth floor on which she lives. She asked a distant relative on her husband's side to contact the newspaper.

Anna Grigor'yevna Zhitilova's life stood there before his eyes. He leafed through the pages of this difficult life and was amazed at the courage and selflessness of this unpretentious Russian workingwoman. First the war took away her elder son. Later, in the second year after Victory, she lost her younger son, who had received a serious concussive injury at the front. Later her husband died as well.

Anna Grigor'yevna was thrice hit by what would seem to be unbearable grief. But she stood up under it. She retired at an advanced age, respected by all.

The building in which she had endured so much and where, in spite of everything, she never felt lonely, feeling the support both of acquaintances and those whom she did not know, was scheduled for major repairs. She was assigned an apartment in a new building, with an elevator (she had dreamed about this) and, most important, in the rayon which she herself had chosen. Anna Grigor'yevna is grateful to various Moscow organizations, including public organizations, for their sensitivity, consideration and concern.

One of the visitors who came to the reception room at KRASNAYA ZVEZDA that day was bearing a request to pass on to the compassionate individuals involved the maternal thanks of an old woman.

We shall state quite frankly that it is not often that people come to us with such messages. The newspaper staff usually receives resentful complaints about procrastinators, concern about an uncorrected mistake or unresolved problem, and many other troubling matters, frequently matters of wide resonance within the community.

Lt Col (Ret) V. Fytsa also came to the newspaper reception room in search of understanding and justice.

"I am not one of those," he said, "who complains about everybody and everything. Please believe me, however, when I say I can't take it any longer. It has been 3 months since my discharge from the military, but the military commissariat has not yet received my service record."

We made inquiries to determine where these documents, which are so essential to a veteran, were located. And a strange story began to be revealed. It is a mere stone's throw, one might say, from the Moscow Military District personnel directorate to the military commissariat in Moscow's Krasnogvardeyskiy Rayon. But the snail was still crawling along, some day to arrive....

We got in touch by telephone with Lt Col A. Smolenskiy, the officer responsible for Fytsa's service record.

"My mistake," he immediately admitted. "We shall rectify the situation immediately."

But why had he not done so sooner? It seems that the second copy of the service record had long since been destroyed. But the person whose job it was to know about this was totally ignorant of the fact. What is more, even without looking into the circumstances of the matter, Lt Col A. Smolenskiy had repeatedly assured the inquiring retired officer that everything was being handled properly, that he should go over to the rayon military commissariat and simply fill in the papers for receiving an identity card, for receiving a pension, and for registering at his new place of residence.

Only after an inquiry from the newspaper did this matter, which in general was rather simple, start to move. It is appropriate to state at this point that the incident we have related is fortunately not a typical one. One could cite many examples attesting to the greater attention displayed in various offices, right up to the very highest levels, to people's requests, complaints, or wishes. That is the accepted way in our society.

As we know, the party attaches great importance to working with letters and petitions from toilers -- an important source of social information. They reflect not only all the best of our today, but frequently contain warning signals about problems awaiting solution as well as deficiencies and errors of omission requiring immediate intervention.

There was such a warning signal in a letter written by Sr Lt (Res) S. Kazban, who until recently served in one of the units of the Carpathian Military District. For this reason the editors felt that it was necessary to send the letter to the district political directorate for examination of the questions raised in it.

The problem which personally affected the author of the letter was as follows. While discharged into the reserve after 2 years of active military service, he nevertheless did not immediately receive permission to proceed to the locality where he had been called up into the military. Refusing to issue his discharge papers and travel documents, they instructed him first formally to turn over command of a battery which he did not in fact have, being a platoon commander. In addition they docked him a considerable amount of money for a combat equipment shelter awning, although he had had nothing whatsoever to do with its loss.

The Kazban incident gave reason to wonder whether in the unit in which he served there were any other errors of omission in handling young officers called up to active duty from the reserve.

Here is the reply to the newspaper, signed by the unit political section chief: "Comrade S. Kazban was correct in refusing formally to turn over battery command, inasmuch as it had not been under his command. The order to dock him the amount of 256 rubles as the cost of the equipment shelter awning has been rescinded. The officials responsible for the unwarranted decision have been given disciplinary punishment. Sr Lt (Res) S. Kazban has been given his discharge papers and issued travel documents. Lt Col G. Andreyev and Maj A. Pinskiy have been severely reprimanded for ignoring the requests of young officers and for poor knowledge of their professional, political, and moral qualities."

Sr Lt (Res) S. Kazban was sitting in the newspaper reception room as this official reply was still in the mails. What was his complaint now? The same old thing: callousness, indifference, and irresponsibility on the part of certain officials. It was not apparent from the reply how they were punished for their "unwarranted decision." One thing was certain, however: the documents issued to our visitor had long since lapsed.

Of course in the end justice prevails. But at a considerable cost in nerves and energy expended by this reserve officer. How many hours of working time at the various echelon levels had been spent on studying a matter which could have been resolved locally without a fuss.

Sometimes very little is required to meet a person's legitimate request. For example, to check and determine precisely to whom a person should turn. Hero of the Soviet Union Col (Ret) A. Yegorov was also essentially waiting for a simple explanation from Lt Col A. Afanas'yev, military commissar of Tsentral'nyy Rayon in the oblast center Kaliningrad. He was filling out the forms for a travel authorization to a sanatorium and needed some information from his service record.

"Will I be able to obtain this information if you are not in the office after lunch?" he asked the military commissar upon entering the rayon military commissariat.

"I don't know," came the hasty reply. Thousands of you come in to this office."

Of course that is by no means a polite reply. It is therefore not surprising that it evokes another agitated letter to the editors.

Traveling to Kaliningrad on business, I met Lt Col A. Afanas'yev. In reply to my question: "How could such a thing happen?" he merely made reference to the fact that he was busy, that he always had a thousand things to do. He also admitted that he remembered having such a visitor. But he did not know that the latter was a Hero of the Soviet Union. I subsequently ascertained that four Heroes of the Soviet Union are registered at the rayon military commissariat. They are invited on a sporadic basis to take part in military-patriotic indoctrination work with preinduction youth, and nobody pays any attention to their needs.

"His rudeness toward me," wrote Aleksey Mikhaylovich Yegorov, "offended me a great deal. We war veterans are dwindling in numbers. But not only war veterans are entitled to respect. Any individual who goes to any government office should be met with tactfulness and respect."

...Visitors to the reception room at KRASNAYA ZVEZDA come with various situations, questions, complaints, and suggestions. And as a rule all of these could be settled locally. One thing is required -- a solicitous, considerate attitude toward people's needs and aspirations.

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ARMED FORCES

UNFLATTERING PORTRAYALS OF MILITARY PERSONNEL BRINGS CRITICISM

Moscow KRASNAYA ZVEZDA in Russian 4 May 84 p 4

[Article by Colonel Yu. Moshkov, senior Voenizdat literary editor, Honored Cultural Worker of the RSFSR: "Poor Polina, A Commentary"]

[Text] I have in front of me this year's first issue of NEVA. It contains a story by Nina Katerlya entitled "Polina." The story is essentially what we would call "civilian." Nevertheless, there are parts of it which deal with military people, and it is these parts of the story which have moved me to take pen in hand.

The father of one of the story's heroines, Mayka, is "... a colonel, who had retired and immediately left his family and married a girl employed in the cultural program of a sanatorium where he had been vacationing. She was a good-sized girl with enormous breasts. In fact, she looked like a dresser with the top drawer pulled out. She was a little on the daft side, but really young, some 30 years younger than he was."

And then there's another character, a lieutenant by the name of Glukhov, one of Polina's — she's the main heroine in the story — husbands. She had suddenly decided to "go for him" after they had known one another a week or two. "They met at a party at the school this Glukhov was about to graduate from, and then when he did graduate, he moved in with Polina as her husband." I beg the reader's forgiveness, but I am compelled at this point to cite a few more lines: "Glukhov proved to be as rough-cut as a pair of felt shoes, but this didn't bother Polina in the slightest; to the contrary, she even seemed to like him that way She started dragging him around to all the theaters. Glukhov put up with this for a whole 'quarter,' and then the trouble started. And how! Maya Andreyevna even suspected that Polina's husband was beating her. Every now and then Polina would show up with bruises, and when anyone would inquire about them she would say she bumped into a taxi door, or that she fell down and — can you believe this? — hit her face on a corner. What a laugh!" But that's not the end of it. "A year later they split up. They divided up their apartment and their property, but then Glukhov began to stoop to new lows: he now claimed that things that belonged to Polina were actually his — the beast! — when the fact was that he hadn't brought anything into the arrangement except a little suitcase with some foot binding cloth. And on top of that he had himself awarded the television set and the dining table. Not to mention the space — following their exchange, Polina found herself in what was in truth a small cage"

It is clear that this young officer was a real pain for Polina, what with the fact that a couple of pages later, even her friend Mayya "on one occasion suddenly starts going on about Yuyiy Glukhov for some reason or other — about how uncouth and uneducated he was and how one time he had insisted that Saltykov-Shchedrin had written the tale about the swan, the crawfish and the pike."

So that's how it was. Poor Polina! And just where did she turn up this lieutenant, this military school graduate?

But it's not just the officers who "catch it" in this story. "I was just looking at myself in the mirror in the car this morning," she confesses on one occasion to her next roommate, "and I say to myself, 'What a face!' I doesn't even look like an old woman's face, but something more like what you'd see on an old sergeant."

The story doesn't have much of anything else to say about military people, that's true. Thank goodness! I thought. Otherwise, there's no telling what the author might have said about them (I say this, because the vulgarity in the language of the story really goes beyond the bounds of necessity).

A perfectly reasonable question automatically comes to mind here: why does the author feel it necessary to subject to this kind of offhanded criticism those who are defending the motherland with weapon in hand, those who enjoy the love and admiration of all our people and, in this instance, those to whom Polina herself owes her life, regardless of how much the quality of that life may leave to be desired.

On the last page of the magazine, down under the list of members of the editorial board in the 8-point type, are the names of the editors of this particular issue. There are eight of them. Which one of them edited "Polina" would, of course, be difficult to determine. You have to assume, though, that it wouldn't be too hard to find out.

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ARMED FORCES

LETTERS TO KRASNAYA ZVEZDA EDITOR, RESPONSES

Discourtesy to War Veteran

Moscow KRASNAYA ZVEZDA in Russian 11 May 84 p 2

[Text] "They Wronged the Veteran" was the title under which a letter from Senior Warrant Officer N. Chernysh was published on 13 January of this year. It told about the rude and disrespectful way war veteran M. Sheykin was treated by certain doctors at Health Clinic 113 in Moscow's Frunzenskiy Rayon.

A month after the letter was published the editor received a letter from the health department in Frunzenskiy Rayon. It was signed by department chief Ye. Klyuyeva. It reported that the facts had been confirmed, severe penalties were imposed upon the guilty parties and steps were taken to prevent such things from happening in the future. The response contained not a word about who had been punished or what specific steps had been taken, however. We telephoned Comrade Klyuyeva and received the brief statement: "Chief physician Brodskaya was reprimanded. The chief physician will report to the editor on the steps taken by the clinic."

Three months went by after the letter was published before a reply was received from the health clinic. It reported that a meeting had been held at the health clinic, which had discussed "the need to demonstrate sensitivity and concern for the patients and to eliminate the possibility of any sort of conflict." It went on to say that V. Samoylik is a perfectly competent doctor" and that L. Toropova is "an exceptionally considerate doctor."

The professional competence and the merits of these doctors were not questioned in the letter published in the newspaper, however. It dealt with a specific instance of violation of the doctor's ethics and rude treatment of one who fought at the front. Unfortunately, however, none of this was mentioned in the response from the health clinic. It only expressed regret that the editor had published the letter "without first informing the health clinic's administration and the health department."

The editor expresses his hope that the Frunzenskiy Rayon party committee will properly assess the formal handling of the newspaper's critical article.

Garrison Heating Problems

Moscow KRASNAYA ZVEZDA in Russian 11 May 84 p 2

[Text] "Tongues Wagging About... Steam" was the title under which a letter to the editor from Senior Lieutenant (Reserve) N. Dotsekno was published on 30 March. It told about heat supply deficiencies at one of the Pacific Fleet garrisons. Rear Admiral I. Makhonin, the Pacific Fleet's deputy commander for rear services and chief of rear services for the fleet, has reported to the editor that the serious deficiencies cited in the letter did exist. They were a result of unsatisfactory preparation of the central heating systems for winter and their operation: Numerous heat leaks were not detected, and the heating systems were not flushed out. This was a result of negligence on the part of officials toward their service duties. By order of the commander of the Pacific Fleet officer V. Vinogradov, deputy unit commander for rear services, was issued a severe reprimand, and Lieutenant Colonel A. Vivdich, chief of the MIS (navy engineer service), was warned about less than complete conformity to service requirements.

The leakage of hot water from the heat line has now been halted, and the heating systems for the buildings have been repaired. Steps are being taken to satisfy the demands of apartment tenants who have complained about poor heating. The fleet commander has approved a plan for major overhaul of the garrison's central heating system during the summer.

Vehicle Maintenance Negligence

Moscow KRASNAYA ZVEZDA in Russian 15 May 84 p 2

[Letter from Maj V. Udovichenko, chief of the Military Motor Vehicle Inspectorate of a garrison in the Red Banner Pacific Fleet: "Hold Them Strictly Accountable"]

[Text] A worker with the Military Motor Vehicle Inspectorate had to stop the truck driven by military driver Private S. Mel'nikov. After carefully inspecting it, the military motor vehicle inspector asked the driver to take it to a specially designated site and park it. For technical reasons the truck could no longer be operated. There was play in the steering column and fuel was leaking from the tank.

When asked why the truck had left the unit technically unprepared, Warrant Officer S. Spirin, vehicle commander, could not give a convincing answer. He only commented indifferently: "Let it stay there for a while. We can get along without it."

And what do you know? People in the unit in which the warrant serves did in fact not remember the "arrested" motor vehicle for more than a month. I had to remind the commander of it, of the need to correct the defects and return it to the unit.

I would probably not be writing this letter if this were an isolated case. The fact is, however, that the site designated for unserviceable motor vehicles at our garrison is never empty. The trucks sometimes stay there for weeks on end.

A powerful ZIL belonging to the unit in which officer R. Khatmulin serves stayed there a long time. And only after several reminders by workers with the Military Motor Vehicle Inspectorate did some members of the unit come for it. A truck belonging to the unit in which officer K. Khein serves was detained in November of last year because of several technical defects. "Forgotten" by everyone, it spent the entire winter at the site. No comment is necessary, as they say.

The Military Motor Vehicle Inspectorate has to detain and leave passenger cars at the site for various reasons. This is an entirely different situation, however. Everything possible is done to return these vehicles to the unit as rapidly as possible. Certain officials even find the time to meet personally with workers of the Military Motor Vehicle Inspectorate, and steps are taken very promptly to correct the defects.

The explanation is very simple: The chiefs suffer personal inconvenience when deprived of their service vehicles. The "forgotten" trucks do not cause such inconvenience, however. Nothing is paid for their idle time. And even if there is a charge, it does not come out of their own pockets.

Perhaps we should still calculate how much this costs the state, however. Perhaps we should finally hold strictly accountable those who are not conscientious when it comes to state means.

Respect for Teachers Demanded

Moscow KRASNAYA ZVEZDA in Russian 15 May 84 p 2

[Letter from L. Simakova and commentary by Lieutenant Colonel V. Kir'yazov: "Daddy is Mad..."]

[Text] Dear Editor!

I am principle of a primary school at a garrison. I teach the small children and I like the work. I cannot deny that the respect shown the teacher by the parents of the students is nice. In our line of work we encounter all sorts of things, of course, but we always try to keep our nerves in check. I can no longer remain silent, however. This is what happened. When I gave a "three" to the son of Captain V. Nadyrshin, deputy battalion commander for political affairs, he summoned me to his office and admonished me for not appreciating the fact that the boy is especially gifted. The boy had been an all-around excellent student at another school, I was told.

A messenger was sent for me twice. I was not permitted to complete the lesson, and when I arrived at headquarters Vladimir Khayasovich would not see me. He made me wait in the reception room. When he was finally free, he "gave me his attention." He did not mince words, but I was so offended by being called away from my lesson that he could not offend me any more.

Is this sort of treatment of a teacher by a political worker acceptable?

L. Simakova, Northern Group of Forces

The editor sent this letter to Lieutenant Colonel V. Kir'yazev, our permanent correspondent for the Northern Group of Forces. His report is published below.

I have known Captain V. Nadyrshin a long time. A story I did on him was published in the newspaper KRASNAYA ZVEZDA in April of 1982. It told about Nadyrshin's participation in the All-Army Conference of Secretaries of Primary Party Organizations. The story contained the following comment. Nadyrshin asked his deputy: "Tell me honestly, what do the communists think of me? Are they not sorry they elected me"?

And so, Vladimir Khayasovich had grounds for doubt: He knew that he had a small fault--he is abrupt with the personnel and is too emphatic with his opinions. The communists in the missile battalion knew how to set their secretary straight when necessary, however. The "pass" to the All-Army Conference of Secretaries was yet another demonstration of the well-intentioned support and trust Nadyrshin received. It was assumed that he valued them.

Six months went by after the conference, and the political section of the missile unit received an inquiry from the personnel office about whether Captain V. Nadyrshin could be recommended for the position of deputy commander for political affairs in a separate battalion. The chief of the political section and his deputy considered the request. One of them said: "It's too early! He will overdo it on his own." The other objected: "Great trust obligates one, and Nadyrshin will value that trust." They decided to recommend him.

Interestingly, 6 months later both political workers recall the reference they submitted for Nadyrshin at that time. They have both been promoted, and when I showed them the letter from the teacher, this was their reaction: "That sounds like Nadyrshin. That has Nadyrshin's stamp on it," one of them said. The other was disturbed: "How could he do that?... I shall try to explain to him why his actions were wrong."

They have been "explaining" to Vladimir Khayasovich for 3 months now. All kinds of people have met with him and tried to make him understand the tactlessness of his treatment of the teacher. He was advised to apologize to her. The deputy battalion commander for political affairs is maintaining that he was "right," however, and gathering evidence against Lyudmila Anatol'yevna Simakova so that he can "make mincemeat of her." It could be pride or it could be a sense of certainty that he cannot be wrong, but something is keeping him from acknowledging his blunder in the party manner. The missilemen with whom I spoke about the conduct of their former colleague unanimously made the following statement: "We let him go too early. He didn't have time to develop properly in our combat family." Some of them frankly voiced the conclusion that Nadyrshin had previously been afraid he would not be elected to a second term, but now he apparently does not even consider the party organization's opinion and assumes that along with the position went authority to do anything he wants to.

Let us consider the events in order, take a look at the complaint itself.

This is what happened. For some time the Nadyrshins' son lived with his grandparents, during which time he entered the first grade. He attended school a

month and a half, and someone decided that the boy was outstanding in every way, then and for all time.

The garrison school chief welcomed the boy. Lyudmila Anatol'yevna still speaks of him with respect: "He is bright, but he needs to work a little more in order to be outstanding." She gave him a "three" in arithmetic. He fully deserved the grade, of course. She herself was fairly disappointed, but she hoped that the newcomer would soon settle into the new situation and demonstrate his aptitude.

And so, the deputy commander for political affairs decided to "straighten things out" with the teacher. He was supported by Major I. Paslay, battalion commander.

"Why did you support him?" I asked Igor' Petrovich.

"Because the same thing happened 2 years ago with my Oksana. I simply do not know what to do about that school."

What to do about that school? Love it and permit it to function without interference. The school is the holy of holies, afterall, where our children acquire knowledge.

I told Major I. Paslay about something I had witnessed that summer in my native village. Several of the oldest residents on our street had gathered in one of the yards and were sitting beneath a walnut tree. Everyone who passed bowed to them. When a teacher passed by, however, the old men stood up themselves, removed their caps and bowed. This is the traditional attitude of our people toward a teacher.

After listening to my story Igor' Petrovich blushed and said: "Yes, that's so. I'll invite the teacher and the deputy commander for political affairs to my office, and we'll apologize to her."

This did credit to the commander, but he had also taken the wrong position in the beginning. Ol'ga Semenovna Gureyeva, outstanding public education worker of the RSFSR and inspector of schools with the Political Directorate of the Northern Group of Forces, visited the garrison. She spent a lot of time talking with Simakova, telling her not to worry, that there are "all kinds of daddies." She conducted a seminar and a parents' meetings until late in the evening, until she was reminded that the dining hall was closing. The battalion commander was waiting in the dining hall.

"Don't worry. I asked the staff not to leave," he said, and his concern was touching. But Igor' Petrovich added: "Eat your dinner and then go see the deputy commander for political affairs in his office. You have heard Simakova. Now listen to what he has to say."

Both of them, the commander and the deputy commander for political affairs, could be Ol'ga Semenovna's sons. She has a great deal of experience. She was director of a school and worked in the Ministry of Education of the RSFSR, so she has met with parents holding various positions. They did not summon her, however. They went to the school themselves. They understood that they were simply parents and that their children were simply children, that the father's position was of no significance.

The inspector "answered the summons," however, and listened to the indignation of the deputy commander for political affairs. This is where the statement was made about the mincemeat which Nadyrshin could make of the disliked teacher. Ol'ga Semenovna tried to explain to the deputy commander for political affairs that the garrison was lucky to have the teacher, an excellent pedagogue. He stood firm, however:

"I will not apologize. I will prove that she is wrong."

Later he visited the correspondents' office in order "to prove" that. He swore:

"I will prove it... I will bring letters proving that Simakova went away from the lesson and left the children alone there."

Sometime later he showed up again at the correspondents' office. He did not bring the letters "exposing" Simakova: "The people didn't want to inform on her." And I was glad for the "people," for the officers and members of their families who refused the request of the deputy commander for political affairs "to write a report on the teacher." Perhaps their firmness will also have a beneficial effect upon the deputy commander for political affairs, just as the firmness of the communists--and-missilemen once helped him to stay "in his place." I was in no hurry to send the information to the newspaper. I was also hoping that the attention given to the school in our nation today and the decisions adopted at sessions of the USSR Supreme Soviet and by the party Central Committee would all help Nadyrshin reconsider his unbecoming stance with respect to the teacher. I recently met him again. He stated with firmness:

"I have not changed my opinion." He was silent for a while and then added, not without a note of pride: "I was recently appointed deputy garrison chief for political affairs."

I would point out that this is not a regular position, but he reported the fact with a clear hint: Now, I will certainly not be apologizing. And I thought to myself: How could it happen that a person who sat at a school desk for 10 years, where he was taught how to read and write and where he learned about the world, did not even gain a sense of elementary respect for the teacher?

I need to apologize to Lyudmila Anatol'yevna Simakova, the author of the letter, for the fact that it took so long to get to the bottom of the matter. I would like to believe that the Political Directorate of the Northern Group of Forces will properly assess the political worker's conduct and find it possible to explain to the deputy battalion commander the erroneousness and impropriety of his position with respect to the elementary school chief, to a teacher whose conscientious and selfless labor deserves profound respect.

Press Neglects Komsomol

Moscow KRASNAYA ZVEZDA in Russian 18 May 84 p 2

[Text] "Komsomol Life on the Pages of a Newspaper" was the title of a press review published in KRASNAYA ZVEZDA on 18 March. It stated that the newspapers

STRAZH BALTIKI (the twice Red Banner Baltic Fleet) and KRASNYY BOYETS (the Red Banner Ural Military District) do not give adequate coverage to questions of Komsomol life.

Captain 1st Rank Ye. Kazakov, chief editor of the newspaper STRAZH BALTIKI, reported that the press review was discussed at a meeting of the editorial board and in the party buro. Questions of increasing the responsibility of the journalists for the quality of the articles published on this subject and for their effectiveness were also raised at a party meeting. Workers in the section covering Komsomol life and newly appointed chief Captain Lieutenant V. Kostromarov were made aware of the need to take steps to vitalize the coverage of Komsomol-youth life, to enlarge the subject matter and make more active use of the secretaries of Komsomol committees and buros as writers. It was also recommended that the other editorial sections write more frequently and with greater depth on problems of the youth having to do with the ideological, military and moral development of the seamen, petty officers, sergeants, seagoing and shore-based warrant officers and young officers in light of demands set at the 26th party congress and subsequent plenums of the CPSU Central Committee and at the 19th Komsomol Congress.

Since the publication of the press review the newspaper has begun carrying its traditional columns and new ones more systematically. Areas of coverage such as preparations for the 60th anniversary of the awarding of the name V.I. Lenin to the Komsomol, the All-Union Conference of Komsomol Secretaries, and certain others are being stressed. Special pieces entitled "Compass Points for the Youth" and "The Years as a Lieutenant," among others, have recently been published.

Colonel I. Kayumov, chief editor of the newspaper KRASNYY BOYETS, reports that the press review was discussed at a meeting of the editorial board and at a service conference. The work plan calls for a number of steps aimed at enlarging coverage of youth subjects and improving the quality of the articles published.

Ship's Inspections Criticized

Moscow KRASNAYA ZVEZDA in Russian 23 May 84 p 2

[Letter from Capt Lt Tugan-Baranovskiy, ship commander, and follow-up report from Rear Adm L. Golovko, chief of staff of formation "X": "The Inspector's Responsibility"]

[Text] The winter training period has ended and the summer period is about to begin, and I would now like to raise one delicate problem, but one I consider to be urgent. I would like to talk about the responsibility of those entrusted with inspecting the ships and fighting units. I believe that I will be expressing not only my own opinion, but that of many other commanders as well, when I say that the inspections could sometimes be far more productive. The fact is that some inspectors visit the ships with one desire--"to dig up" as many deficiencies as possible. They see everything in a dark light and do not notice anything good. When you talk to them it is sometimes as though you are speaking different languages, because our objective difficulties and problems do not exist for them.

In my opinion, the inspector's real responsibility lies not in submitting an "impressive" report to superiors after visiting the ship, but in thoroughly determining the causes of specific shortcomings and providing the crew with effective assistance in eliminating them.

This is the way I understand it: The inspector is not a disinterested observer. He should be as concerned about the affairs of the crew as are the commander and the other officers. Why is it that we sometimes have to take on board the ship people who are indifferent, not to say irresponsible? Once, as an example, Captain 3rd Rank F. Akimov visited our ship to check on our political knowledge. He handled the inspection with some sort of incomprehensible bias and unfairness. He concentrated only on various petty matters. He did not consider it necessary to delve into the methods used for conducting the classes or the knowledge of the students. As a result the well-prepared group was for some reason given a satisfactory rating....

Captain Lieutenant M. Tugan-Baranovskiy,
ship commander

The editor showed this letter to Rear Admiral L. Golovko, chief of staff of formation "X," and asked him to offer his opinion on it.

"The issue raised by Captain Lieutenant M. Tugan-Baranovskiy is truly important and current," Rear Admiral L. Golovko commented. "I do not feel that specific and isolated errors in the work of the inspectors should be passed off as some sort of system, though. I can say with complete responsibility that as a rule only the more experienced people with a profound knowledge of their job are entrusted with inspecting and evaluating the situation in the units and on the ships. For example, Captain 1st Rank G. Shinkevich, Engineer-Captain 3rd Rank V. Stepovoy and many others have earned great respect on the ships and in the units with their demandingness and their professionalism.

"I do not say this to defend the honor of my uniform or that of the other headquarters, but for the sake of objectivity. One can be offended by the nit-picking of the inspectors and their efforts to reveal all shortcomings on the ship, of course, but it would be better to take a different view: Since there is criticism, there must be some kind of failings.

"With respect to the inspector's responsibility, it is primarily a matter of his being demanding, uncompromising, able to stand up to those who feel that they can conceal person failings with complaints about various kinds of objective difficulties and problems, and capable of submitting to the flag officer an honest, objective, totally unembellished report on the state of affairs on the ship.

"This does not mean, of course, that the inspector needs to do nothing more than record deficiencies. Captain Lieutenant Tugan-Baranovskiy is absolutely correct in this. The inspector's responsibility also involves giving useful advice, helping the ship's officers plan ways to correct deficiencies and if possible, taking prompt and specific steps to achieve this.

"Nor could I fail to say that the inspectors must treat the ship specialists, their labor and dignity with respect. Excessive self-assurance and arrogance, and especially rudeness and bias, must be alien to them. As he reveals shortcomings, the officer inspecting a ship must also be able to see everything good on it, especially the beginnings of new and progressive things.

"Unfortunately, one does indeed encounter among the inspectors those deserving of criticism in this respect. They also need to be taught and indoctrinated and when necessary, they should be held strictly accountable.

"We recently held an open party meeting of communists from the staff and the political section, at which the effectiveness and objectivity of the inspections and the responsibility of the staff officers were discussed in a strict and principled manner. Incidentally, Captain 3rd Rank Akimov, who is mentioned in Comrade Tugan-Baranovskiy's letter, was also subjected to demanding criticism at the meeting for lack of objectivity and inadequate competence. It is planned in the future to conduct instructional and methodological classes and seminars for exchanging experience in working on the ships.

"The seagoing specialists and staff officers, both the inspectors and those who are inspected.... We all have the same goal, after all, the same common concern--concern for the combat readiness of the ships and units. This means that the criteria for assessing the state of affairs in the military collectives must be uniform, and our responsibility must be uniform."

Term 'Veteran' Defined

Moscow KRSNAYA ZVEZDA in Russian 23 May 84 p 2

[Letter from M. Yeremenko, participant in the Great Patriotic War, and reply: "Who is Called a Veteran?"]

[Text] Respected editor! I recently had to deal with what would appear to be a simple question: Who should be considered a veteran of the Great Patriotic War, and who was simply a participant? Unfortunately, I could not find the answer to the question. Could you please tell me the difference between the two terms?

N. Yeremenko, participant in the Great Patriotic War

Respected Nikolay Mikhaylovich!

According to an explanation from the Main Personnel Directorate of the USSR Ministry of Defense participants in the Great Patriotic War include all servicemen and civilians who assured the achievement of our Victory both at the front and in the rear area--in the military districts and in the central organization--and were awarded the medal "For the Victory Over Germany in the Great Patriotic War of 1941-1945" or "For the Victory Over Japan." We have to consider the fact that the corresponding benefits were not awarded to all of these individuals, but only to those who served or worked in units, at headquarters and installations which were a part of the field army or were in the partisans or in underground groups. And so, it is not just those who have been issued certificates entitling them to the benefits, who were participants in the Great Patriotic War.

In this case, Nikolay Mikhaylovich, the work "veteran" has no legal status, so to speak. It only underscores our respect for honored individuals. The dictionaries define a war veteran as an old, experienced fighter, a participant in many battles. It should be applied in this sense to participants in the Great Patriotic War.

Promotion Notification Delay

Moscow KRASNAYA ZVEZDA in Russian 23 May 84 p 2

[Letter from Sr Lt S. Kozlov and follow-up: "Why the Offense Occurred"]

[Text] Dear editor! I have to share my resentment. I previously served in one of the units of the Far East Military District. In June of 1983 it was time for me to receive my regular military promotion, to the rank of senior lieutenant. When the recommendation was ready the unit commander invited me in for a talk. The talk did not take place at the appointed time, however, because the commander was busy with some other urgent matter.... Finally, I was told at headquarters that the recommendation had been sent out. I was transferred to a new station in the Turkestan Military District. An enquiry was sent out from my new unit requesting confirmation of the fact that I had been promoted. The reply did not arrive soon. It was dated 31 October 1983. It indicated that the recommendation had been sent to my new duty station.

At the end of November I was informed that I had been promoted to senior lieutenant. A month passed, however, and then a second and a third, but the excerpt from the order has still not reached the subunit. Now both I and my chiefs have some doubt about whether I have been granted the rank. Was it a misunderstanding? All of this is annoying.

Senior Lieutenant S. Kozlov

The editor learned in the Personnel Directorate of the Turkestan Military District that S. Kozlov was promoted to senior lieutenant in November of last year. That would appear to be the end of it. The individual still has the resentment, though. Why are there sometimes unjustifiable delays with the granting of regular promotions to the officers?

At the editor's request Colonel M. Pirogov, chief of the Department for Granting Military Ranks in the Main Personnel Directorate of the USSR Ministry of Defense, answers this question.

In order to receive the next military rank it is not enough simply to occupy a corresponding position. A good reference is also needed, of course. If an officer has some significant shortcomings in his service or his personal conduct, the next rank is not granted until these shortcomings have been corrected. The regimental commander and equivalent immediate superiors are required to personally inform their subordinate of the reasons for holding up his recommendation for the promotion.

If there is a delay with the promotion of an officer who performs his duties conscientiously and has irreproachable personal conduct, this can do nothing but harm the interests of the service and the indoctrinational work. This kind of delay must not occur. The following procedure has been established: The recommendation should be sent out from the unit in time for it to be considered by the superior authorized to grant the promotion involved by the day the officer's term of service in his present rank elapses.

Promotion to the next military rank is an important and joyous event in the officer's life. It is supposed to stimulate his activeness and zeal. It is important for the officer to learn that he has been promoted without delay. The personnel orders or extracts therefrom are to be sent out within a 7-day period following the signing of the orders. It is the rule in the Main Personnel Directorate of the USSR Ministry of Defense, for example, that the extracts from orders issued by the USSR minister of defense granting military ranks are sent out the day following the signing of the orders.

With respect to the specific case involving Senior Lieutenant S. Kozlov, the established procedure was obviously violated. Personnel agencies of the Far East Military District delayed the paperwork. The matter was not followed through and the dispatching of the extract from the order granting the promotion was also delayed in personnel agencies of the Turkestan Military District. This is what caused the problem for the young officer.

It sometimes happens that an officer's term of service in his present rank elapses during the period when he is being transferred to a new station. In such a case moral duty dictates that the commander dispatch the recommendation for the officer's promotion along with his personnel file.

In short, everything has been done to prevent the occurrence of things like that discussed in S. Kozlov's letter.

Abuse of Service Position

Moscow KRASNAYA ZVEZDA in Russian 24 May 84 p 2

[Text] "...But They Saw Her off With Honors" was the title of a report from Major M. Medvedev published on 1 April. The report discussed abuses of her service position by military trade chief T. Larskaya and lack of principle displayed by officials in the Military Trade Directorate of the Ural Military District in assessing her actions.

Major General Yu. Orlov, deputy district commander for rear services and district chief of rear services, Colonel G. Kolosov, chief of the district trade directorate, and Colonel N. Kravtsov, deputy chief for political affairs of the district trade directorate, presented reports at a meeting of the district military council, at which time they were sternly advised of serious failings in the work of selecting, placing and indoctrinating leading military trade personnel. The issues mentioned in the report were also discussed at meetings and conferences in all the district military trade agencies and at a meeting of the party buro of the trade directorate.

Colonel G. Kolopetko, political worker, was disciplined for lack of principle in assessing the situation in the military trade agency and the work of the party organization in the military trade agency headed by T. Larskaya. Colonel G. Kolosov, chief of the district trade directorate, and Soviet Army employee V. Malinin, his deputy for personnel, were also disciplined.

Unsatisfactory Physical Conditioning

Moscow KRSNAYA ZVEZDA in Russian 26 May 84 p 6

[Letter from Maj I. Kozobrodov, Red Banner Far East Military District: "Where Do the 'Young Oldsters' Come From?"]

[Text] Senior Lieutenant Ye. Shtepenko's formation was not one of the best in the final physical fitness test. The communications training platoon which he commands received a poor rating. And the platoon commander himself made a significant contribution to the team's "achievement." He was given a poor rating for cross-country running.

This is an unusual case, of course. The vast majority of the officers in our subunits are in good physical condition and regularly engage in sports. Lieutenant Stanislav Antonov, a platoon commander, for example, has a good reputation in motorized rifle unit "X." The platoon has an excellent rating. The motorized riflemen also have good physical training results. And their commander deserves a great deal of the credit for this.

The men under Captain A. Artemov and Senior Lieutenant K. Puzikov also excel in the physical training.

The list could be continued. We still find officers like Senior Lieutenant Shtepenko, however. We refer to them as "young oldsters." Captain Yu. Chernik is another. A young officer, but already an "oldster," he does not engage in sports.

Where do these "young oldsters" come from? When they graduate from the military school, after all, all of the lieutenants ordinarily are in excellent physical condition and are rated in various types of sports. A year or two passes, however, and one no longer recognizes certain of the young officers--previously neat and trim, they have let themselves deteriorate and have difficulty lifting themselves onto the horizontal bar. When this is pointed out to them they rationalize the situation, claiming that they have no time to engage in sports.

But do they really have no time to engage in physical training? At the sports grounds one frequently sees the following: The platoon is performing exercises on the horizontal bar or the parallel bars, while the platoon commander moves among the facilities and directs the activities. As far as demonstrating to his men how to do certain exercises or engaging in the exercises himself, he is not about to do that! This continues day after day, month after month, and the lieutenant gradually loses his sharpness.

An officer's physical fitness is certainly not merely a personal matter. The physical conditioning of the fightingmen also depends upon it, and in the final analysis it determines the subunit's combat readiness. Every officer should bear this in mind.

Officers' Conduct Criticized

Moscow KRASNAYA ZVEZDA in Russian 1 Jun 84 p 2

[Text] "With Silent Agreement" was the title of a critical report written by Major A. Ladin and published in KRASNAYA ZVEZDA on 15 January. It discussed serious shortcomings in the work style of officers A. Kolmykov and I. Kovalenko.

In a reply to the editor Colonel Justice A. Khalyuchenko reported that the garrison's judge advocate's office has checked out the reports of malfeasance on the part of Lieutenant Colonel A. Kolmykov. The facts presented in the report were confirmed. The judge advocate has made the appropriate recommendation to the formation commander and informed the political section.

Officers Bryantsev and Obelov have reported that Lieutenant Colonel Kolmykov has been warned of his total nonconformity with service requirements for abuse of his service position and rude treatment of subordinates. A party commission in the unit political section issued him a strict reprimand, which was entered on his record. Officers I. Kovalenko and V. Khristich were issued stern reprimands for failing to take steps to halt A. Kolmykov's nonregulation conduct.

The reply goes on to say that an error made by the former chief of the political section caused the significant delay with the reply to the editor. What kind of error this was, however, and why it was made have not been explained. We thus have a case of sluggishness by responsible individuals in responding to a critical article in KRASNAYA ZVEZDA. We believe that the Political Directorate of the Red Banner Central Asian Military District will assess this occurrence from a standpoint of principle.

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CSO: 1801/337

GROUND FORCES

EXERCISES AIMED AT DEVELOPING STRENGTH FOR MOUNTAIN FIGHTING

Moscow KRASNAYA ZVEZDA in Russian 15 May 84 p 1

[Article by Lt Col A. Yurkin, Red-Banner Transcaucasus Military District: "Mountains Are Conquered by the Strong: A Report"]

[Text] Physical training classes were in progress at the regimental sports facility. Gds Sgt S. Gradzelidze was the first man after the officers to approach the apparatus. He was followed by the other squad leaders, who performed the routine with precision.

I was touring the sports facility training stations accompanied by Gds Maj V. Korchemenko, chairman of the unit sports committee.

"The degree of work load differs from company to company and battalion to battalion," he explained. "The composition and physical fitness of the men as well as other factors are considered. In all cases, however, the work load is maximum...."

The regiment had recently returned from the district high-mountain training center, where all specialists and subunits, in addition to tactical, weapon and special training activities, also worked on a mountain obstacle course and improved their cross-country conditioning. The course, with an elevation differential of 1,000 meters, was covered in record time, for example, with Gds Sgt S. Voznyy becoming the regimental champion.

Hand-to-hand combat occupies a special place in the physical training of motorized riflemen. And training is conducted not only at the sports facility but also in the process of incidental training drills. As a rule the company completes the trip up to the regimental firing range with a swift dash, followed by hand-to-hand combat. Regular issue weapons and climbing gear are used: ice axes, knives, and D-handle shovels. Incidentally, a special area for hand-to-hand combat has been set up in the regiment. At the moment Gds Lt N. Golishnikov was holding a training class there.

We watched Gds Sgt T. Bagirov show Gds Pvt G. Burbatyrov a new move. Gds Sgt Yu. Garist was working alongside.

Striking up a conversation with Garist, we learned that prior to entering the military Yuriy had been interested only in soccer, but in the regiment he had begun engaging in several sports at the same time. He had become even stronger and had gained greater endurance. He takes his example in physical training and sports from the regiment's officers, many of whom are good athletes. Gds Maj V. Khayt, for example, is a candidate master of sports in officer's multiple-event competition and has placed in district competitions. Gds Capt V. Shennikov is a candidate master of sports in weightlifting. All officers regularly take part in regimental competitions as well as company and battalion championships.

"You are about to see a combined training drill," Guards Captain Shennikov alerted me, "the methodology of which was devised in our regiment...."

Completing his routine on the apparatus, Gds Srt Lt V. Nikolayev led his platoon to a special tower: climb the tower at a fast pace, followed by fast ladder descent.... These drills help the men overcome the fear of heights and develop agility and quickness.

Snow-capped peaks, mountain ridges receding into the distance, on the slope of one of which is situated the regimental firing range -- all this persuasively reminds the men of the importance of gaining strength and endurance. Every man at this mountain garrison clearly understands that success in combat training is inconceivable without excellent physical conditioning. A combined training drill methodology was devised at the initiative of the members of the sports committee. Thanks to these methods, the work load can be increased at the end of each training class.

In the adjacent platoon they were running a locally-devised training drill. They were practicing the forward roll and disarming the "enemy." Such training drills strengthen the vestibular mechanism and develop many essential qualities. Then the men strike at special dummies with their feet and hands at a quick tempo. Endurance is very necessary here, as it is following the dash to the top, followed by hand-to-hand fighting. Training classes as a rule are interesting and diversified.

Physical conditioning was very helpful to the men at a tactical exercise, when the regiment was executing marches covering many kilometers, along mountainous routes in conditions of acute hypoxia. Neither freezing temperatures nor snowdrifts could halt the men's forward progress. The regiment reached the precisely designated area and proceeded to carry out its assigned mission on schedule.

The regiment is presently preparing for the forthcoming district mountain triathlon competitions. Cross-country running and mountain climbs are being conducted for this purpose. Considerable attention is also devoted to mass sports festivals, which are conducted in an interesting manner and always involve the participation of all personnel....

"End drills!" a command rang out, and the guardsmen hustled to form up. There forward to another encounter with the mountains. And as we know, mountains are conquered only by the strong.

At the recently-held final performance evaluation exercise in physical training the motorized rifle regiment discussed in this report received a mark of good. Refusing to rest on their laurels, the subunit commanders, political workers, and sports committee members are doing a great deal of work in the subunits, seeking to ensure that each and every man achieves a good level of physical conditioning.

3024

CSO: 1801/335

GROUND FORCES

WINTER TRAINING EVALUATED

Moscow KRSNAYA ZVEZDA in Russian 4 May 84 p 2

[Article by Colonel O. Kalatukha, staff officer, Group of Soviet Forces in Germany: "The Attitude Toward Experience, Reflections on Winter Training Performance Results"]

[Text] In conducting their unit and subunit test exercises, staff officers of the group of forces have given particular attention to the use made of the latest in training materials and equipment. Some units made highly effective use of the facilities and equipment available to them in their exercise areas and on their firing ranges, while the use other units made of them leaves something to be desired. We have even encountered instances of outright wastefulness and negligence, cases in which costly new equipment, systems and simulators have remained unpacked in their crates for months, collecting dust in the depot or locked up in a classroom.

Every single one of these cases was investigated thoroughly, and immediate steps were taken on the spot to remedy the situation. At the same time, the combat training directorate of the group of forces decided to undertake a study of the experience accumulated by the best units, develop generalizations on the basis of this experience, supplement this with specific recommendations and instructions and then disseminate this information to each formation [soyedineniye]. Instructive material was collected suggesting, for example, the most efficient ways to improve the materials and equipment used in the training areas, how to increase throughput and ways to maintain them in condition for exercise use at any time.

Particular attention was given to the innovative approach demonstrated in the motorized rifle regiment in which Lieutenant Colonel A. Matsyuk commands an artillery battalion. Things are always hopping at the firing range. Each training position was electrified over a fairly short period of time and equipped with the latest in simulators and other instruments and equipment. The result was to double throughput on the firing range, which has had a positive impact on efforts to intensify the training process.

In final exercises this regiment, which had not exactly shone in earlier performances, received a good, solid evaluation. And in the fire training phase of the program, almost all subunits earned an "outstanding" rating. The committee looking into the training standards of these motorized rifle troops has

concluded that their success is the result of innovative training methods and, in particular, the steps taken to develop a well-equipped regimental firing range.

Staff officers of the group of forces have taken a similarly close look at the officer training provided in the best units with a view to generalizing this as well. Attention was focused on the system of individual officer assignments. Practical experience has demonstrated that the individual officer will acquire the deepest knowledge of a subject when he himself is assigned to work up an outline, develop a manual on the methodology involved, prepare the flow chart etc. What should these assignments consist of? How do you take account of the differences between the various categories of command personnel? How do you coordinate these assignments with the current phase of the training program? To make it easier to accomplish these tasks, staff personnel have prepared sample individual assignments and recommendations concerning the best way to put new ideas into practice and distributed this information among the various units.

The formation in which Colonel I. Ryabchikov is assigned adopted these recommendations without delay. The individual assignments now incorporated in the officer training program have substantially enriched the program and helped make it more effective. Taking account of the characteristics of its own, local situation, this formation has made creative use of these innovations and developed its own variations on them. Subunit commanders, the branch and service chiefs and other formation specialists are unanimously of the opinion that these new techniques have completely justified themselves. A look at the results has shown that these assignments are proving highly effective. Substantial improvement has been achieved in the officers' professional training program over the course of the winter training period.

On the other hand, however, this is not the attitude toward innovation, recommendations and on occasion toward even instructions issued as directives we have always seen. The unit to which Lieutenant Colonel P. Bezrukov is assigned, for example, received a package of material on improvements which could be made in the unit's officer training program. The people there gave it a once over and immediately put it under wraps in the safe. So this document, which sets forth the results of a painstaking study, has had no effect on the situation here. Many people in the unit have simply never heard of it and are entirely in the dark concerning its contents.

Still another unit presented us with the following picture. Upon receiving this document, the commander put his "Implement" on it and issued the necessary instructions to his branch and service chiefs. They in turn outlined the specific steps they proposed "to implement." Then this material, documents generalizing innovative practices which had proven effective elsewhere, and a fat bundle of papers indicating that this experience had been studied and was now being adopted here, too, were consigned to the safe. For all practical purposes, absolutely nothing was accomplished. Three months later, when inspectors inquired into the effect these innovations were having on the organization of the officers training program, innovations recommended by the very document now in the safe, the commander and his chief of staff found themselves unable to come up with any really convincing answer.

Closer attention is now being given to questions of organization, order and good discipline. Managerial personnel, to include our military management, are drawing the appropriate conclusions from decisions of the February and April (1984) CPSU Central Committee plenums. "Discipline" here is understood to refer in the broadest sense to the ability to remain continuously alert and attentive to any new development, to any innovation, to a readiness to study it carefully and a willingness then to adopt it without hesitation. Unfortunately, however, the attitude we are seeing toward instructions concerning improvements in approach and technique and steps to take to increase the effectiveness of training and educational programs and of innovations in methodology is not always a responsible one.

At the beginning of the winter training period, some senior officers of one particular formation were assigned the problem of developing a model integrated problem to be used in exercises involving platoon leaders and company and battalion commanders. Now this is the kind of problem that requires some imagination. You're not going to be able to solve it if you stay at your desk in the office. It requires research and study, experimentation and collective advice. This is the approach that was expected of officers V. Zherybat'yev and G. Tsil'ko, who were given this important assignment. But then months went by before they finally presented their model problems. And even then they had to be reminded several times. It was all too clear that this assignment was giving these officers difficulty precisely because it required the exercise of imagination, the development of independent conclusions and a readiness to search and experiment.

The very nature of the combat training process, as well as of life itself for that matter, requires a degree of creativity and imagination of commanders at all levels and a continuous search for the most effective methods of employing weapons and equipment and of solving tactical problems. Some of our officers, however, have yet to develop a real taste for the creative approach to things, a vital interest in experience accumulated by others and a desire to study it and adopt it for their own purposes in as expeditious a manner as possible. This is going to require a more exacting attitude on the part of their superiors.

We also need to be able to make innovative experience available to others in an understandable, persuasive form. The overly elaborate description will sometimes make it difficult at first to spot what's really new and innovative in a particular situation. This will be lost among all the generalities and commonly known truths. Recommendations which are put forward do not always take account of the concrete conditions prevailing in the case of a particular unit or the availability of the necessary material resources, facilities and equipment. This cannot be considered an acceptable approach to the dissemination of useful experience, of course. We should undertake to propagandize and then work consistently and resolutely to introduce only that which has proven effective when adopted on a broad scale.

We have now concluded our winter training period. Units and formations are already beginning to prepare for their summer combat training. They are modernizing and renovating the machines and equipment in their training facilities, conducting sessions to discuss training methodologies and preparing demonstration exercises and briefings. This would be a particularly good time to study and generalize the experience of those who have come out on top in competition and proceed with the practical introduction of these useful innovations into the training programs of all subunits and units.

AIR/AIR DEFENSE FORCES

LACK OF INITIATIVE, READINESS DISCUSSED

Moscow KRASNAYA ZVEZDA in Russian 15 May 84 p 2

[Article, published under the heading "Vigilance Is Our Weapon," by Gds Lt Col A. Salmanov, chief of staff, ... Guards Aviation Regiment: "Scramble Immediately!"]

[Text] The aviation personnel stood stiffly at attention. The regimental commander read aloud the order specifying commencement of alert duty. The USSR National Anthem was played with fanfare and ceremony. The faces of my fellow servicemen Gds Maj P. Serov, Gds Capt N. Akopov, Gds Sr Lt K. Cheboksarov, Gds Sr Lt Tech Serv S. Demidovich, and others displayed seriousness and strength of will. I sensed that each and every one of them was prepared to swing into action in the most difficult conditions in response to a sudden command. A guarantee of this is the high degree of ideological conviction of the guards aviation personnel and their flawless job proficiency.

Alert duty. How many times I myself have gone on duty with a feeling of readiness for an immediate scramble, to guard the peaceful skies of the homeland. Today, as regimental chief of staff, I take direct part in organizing alert duty. I feel particularly acutely how important, complex and responsible this job is.

A high degree of vigilance and discipline while on alert duty naturally depend in large measure on the precision and clarity of staff organizational measures. It seems to me, however, that we staff officers sometimes underrate our indoctrinational capabilities and devote more attention to the formal aspect of things. Here is an example.

Headquarters instructed Engr-Gds Maj V. Pavlychev to organize execution of one of the documents which had been received from higher in the chain of command. After some time we checked to determine how the specialists were taking into consideration the demands specified in the document in readying aircraft equipment for alert duty. Certain deficiencies were revealed at this point. When complaints in this regard were leveled at staff officer Guards Engineer-Major Pavlychev, he was astonished: why was he being blamed? The fact is that the requirements of the document had been communicated by him to the executing

personnel, with their signatures, and therefore they are the ones to hold accountable.

Of course rigorous job and party accountability from each and every executing person is essential. Without it there can be no strong discipline or follow-through. It is unfortunate, however, that Pavlychev, in place of vigorous organizer effort, limited himself merely to communicating the requirements of the document, but did not make an effort to ensure that each airman gained a deep grasp of the requirements and was ready and willing to carry them out with a proper level of quality.

One succeeds in ensuring a high degree of discipline and vigilance during alert duty primarily by means of individual indoctrination work. Attention to form with consequent detriment to content is unacceptable here. And one must be held strictly accountable for this as well. A skilled combination of organizational measures and specific indoctrination work with subordinates produces good results. I would also like to demonstrate this with an example.

I remember that we were concerned at one time by less-than-precision performance by command post plotters. And yet the most proficient specialists were being assigned to the alert duty shifts. Why were we not getting the desired results? I had a talk with each of the plotters as well as with their immediate superiors. I became convinced at this time that job expertise alone is sometimes insufficient to perform a responsible and complex mission. It seemed to me that, for example, the firmness and composure of young plotter Gds Pvt A. Ustinov were more suited to alert duty than the psychological qualities of some of his experienced fellow servicemen.

Following appropriate training, Ustinov was permitted to stand alert duty. We used the same procedures to prepare Gds Lt S. Shatokhin and other young specialists to work alert duty shifts. We did not simply inform them that they would henceforth be assigned to alert duty shifts. We coupled the announcement with a solemn ceremony, which naturally put the men into a proper attitude for such an important, extremely responsible job.

We began making alert duty shift assignments taking into account the psychological features of the men, creating a favorable microclimate in that military unit which is formed during a critical period of alert duty. All this produced positive results: discipline became strengthened, and vigilance increased. I am of the opinion that in organizing alert duty a staff officer should not limit himself to entering the names of aviation personnel into the appropriate columns of the order. He should see and know each of those who is being instructed to be ready for the most resolute actions.

Regimental headquarters possesses a wealth of indoctrination capabilities in preparing for and holding the ritual of commencing alert duty. If one does not make a full effort in this, the mood and attitude of the duty shift personnel will be less than desired. I observed this when staff officers "forgot" to talk with the men about the heroic past of the guards regiment and its fine fighting traditions. Sometimes just prior to commencing alert duty, personnel about to report to a critical duty station would fail to visit the unit combat glory room. Sometimes get-togethers would not be held with the

best pilots, engineers, and technicians, who flawlessly perform alert duty, possess a wealth of experience and know-how, and are always ready and willing to share it.

Frequently these errors occur due to having a thousand things to do. Therefore in order not to lose sight of useful measures, we began specially planning and scheduling them and organizing verification of execution. Political workers Gds Majors V. Ovsyannikov, I. Plakhuta and others are faithful assistants to headquarters in this matter.

One is also concerned by another problem. On more than one occasion, when I was on alert duty, I was aware of a peculiar lulling feeling, which could be called a feeling of calm. It would be manifested approximately as follows. No alert warning had sounded on the previous two duty shifts, and suddenly you catch yourself in a state of psychological weakening. Is this not why pilots sometimes, when in a duty flight, talk about the weather, about all kinds of things, but not about a possible imminent scramble or a high degree of vigilance? To get rid of such a feeling is not only the task of political workers, who as a rule regularly visit personnel on alert duty, talk with the men about the international situation, and prepare the requisite visual propaganda materials. It is also the task of staff officers and the subunit commander, who should constantly inquire how things are going on the duty shift and what kind of a mood the men are in. But unfortunately not all staff officers and subunit commanders do this. Development of the above-mentioned sense of calm is also fostered by the fact that sometimes scramble readiness drills are conducted in a less than realistic manner, without creating a complex, instructive situation.

The readiness of an alert duty flight for a scramble without warning depends in large measure on how closely organized is interaction between the aircraft subunit and the air defense services, the airfield technical support, communications and radar support battalions. Unfortunately things do not always run smoothly. The following, for example, has happened. On one occasion Lt Col M. Kroyter's men earned a high mark for alert duty performance, while Lt Col I. Novikov's men displayed inadequate preparation to perform this critical duty assignment. They even had to correct revealed deficiencies immediately prior to commencing alert duty, "on the run." Why was this? The fact is that in matters of alert duty support Lieutenant Colonel Kroyter always seeks to establish the closest contact with aviation regiment headquarters. Lieutenant Colonel Novikov has approximately the following opinion on this score: let each be responsible for his own area of duties and not meddle in one another's affairs.

Reflecting over these facts, I reached the following conclusion: it is high time to get rid of a "narrow, parochial" approach to alert duty support activities, such as by means of joint preparations to accomplish the mission. Toward this end one can plan and schedule measures pertaining to organizational integration of the manpower and resources of the different units and subunits. Incidentally, we already possess experience in this area. It was amassed in the course of joint actions with air defense specialists. This experience is still insufficient, however, especially as regards covering matters of interaction between headquarters staffs.

...As always, I was excited as I arrived at the command post. The greenish radar screens were glowing, and Gds Sr Lts A. Koval'chuk and V. Berezov were closely watching the sky. I had no adverse comments to make.

I hastened to find out how things were going in the alert-duty flight. I was met by Gds Capt N. Akopov.

"All personnel standing watch vigilantly," he reported. "Fighters ready to scramble at the first warning."

The report was gratifying. We cannot rest on our laurels, however. We must constantly seek ways to achieve further improvement in vigilance and combat readiness. The complex international situation demands this of us.

3024

CSO: 1801/335

AIR/AIR DEFENSE FORCES

CONTROLS MALFUNCTION ON AN-22

Moscow KRASNAYA ZVEZDA in Russian 30 Apr 84 p 3

[Article by KRASNAYA ZVEZDA correspondent Lieutenant Colonel A. Manushkin:
"Courage and Skill"]

[Text] Ukase of the Presidium of the USSR Supreme Soviet
awarding orders of the USSR to members of the Soviet Army

For courage and valor demonstrated in the performance of
military duties award the Order of the Red Star to

Major Aleksandr Yur'yevich Zaytsev,

the Order "For Service to the Motherland in the Armed Forces
of the USSR," 3d degree to

Captain Anatoliy Aleksandrovich Korneyev

Major Ivan Grigor'yevich Kuznetsov

Captain of Technical Services Yuriy Anatol'yevich Fomin

K. Chernenko,
Chairman, Presidium of the Supreme Soviet of the USSR.

T. Menteshashvili,
Secretary, Presidium of the Supreme Soviet of the USSR.

Moscow, The Kremlin, April 29, 1984.

The crew of the An-22 military transport aircraft were scheduled to take off from their intermediate base at 0500 local time. It was still dark. The stars shone in the sky. A predawn haze rose from the river flowing near the air base. The aircraft navigator, Major I. Kuznetsov, switched on the warm-up system. War-rant Officer I. Makarov, the senior radio operator, began his check of the aircraft's on-board communication system and communications with the flight operations officer. After checking the pressure in the hydraulic system, Captain of Technical Services Yu. Fomin, the aircraft's senior technician, and Captain of Technical Services G. Petrov, on-board aircraft equipment technician, began their sequential start-up of the aircraft's four engines.

"Doors and hatches closed, load secured," Warrant Officer N. Frolov, the landing equipment technician, reported.

When the navigator, responsible for counting down the time, reported 10 seconds before takeoff, the commander, Major A. Zaytsev, gave his order:

"Takeoff mode."

At precisely 0500 local time, its lights now switched on, the big heavy bird began its takeoff run down the runway.

"We're at speed," the navigator reported. "150 kilometers per hour.... 200...."

The forward landing gear strut lifted off the runway. The aircraft was airborne.

Now the air base the aircraft was taking off from is located near a large city. Down below and off to the side the crew could clearly see the lights of the city and the dark outline of the houses and poplars disappearing into the distance behind them. The aircraft was beginning to turn onto its course toward its destination. Then suddenly

The description of the incident involving the An-22 reads as follows:

"At 3 minutes 8 seconds into a night flight, at 250 meters altitude and with engines at full power (at maximum takeoff weight), the aircraft, piloted by deputy squadron commander Major A. Zaytsev, military pilot 1st class, began to bank to the right. It was descending at vertical velocities reaching 30 meters per second"

The transcript of the cockpit voice recordings shows the following exchange:

"5 hours 02 minutes 44 seconds. Navigator: 'Turn'

5:03:00. Senior flight technician: 'Automatic control system on.'

5:03:01. Navigator: '... To the left, commander. Bank 30 degrees'

5:03:08. Deputy commander Captain A. Korneyev: 'We've got a problem with the control.'"

He was certainly right about that. He had a malfunction in the flight control system on his hands.

Now there are special instructions for all possible emergency situations and any so-called "special" case which might arise in the course of a flight. As it turned out later, this was the first such malfunction on this type of aircraft in all the many years it has been in service.

The commander switched to his backup control system.

"Bank 20 degrees 15," came the voice of the navigator.

"Request approach for landing," deputy commander Captain A. Korneyev radioed the ground and then briefly described the situation.

"Go ahead with your approach," the flight operations officer replied encouragingly.

"More right bank, commander," came the navigator's voice over the aircraft intercom system. "Sharp descent, sharp descent"

They were now 150 meters above the ground. Not only that, this heavy, multi-ton aircraft was not responding to controls and was again heading in the direction of the residential area.

People back in the unit later computed that if the aircraft had continued to descend at that vertical velocity, it would have hit the ground in five more seconds. This critical situation required a quick decision. And the crew made it. Senior flight technician Captain of Technical Services Fomin was able to switch the aircraft from the backup back to the primary system. (The hands of both the commander and his deputy were already full. With enormous effort they were able to keep the aircraft from banking any further.)

The way the specialists on the ground saw it, the decision the crew made was the only correct one under the circumstances.

When Captain Fomin switched the aircraft over to its primary control system it came out of its bank. Only 70 meters above the ground.

But it still had the speed. Major Zaytsev smoothly took over the stick himself. Once again the aircraft began to gain altitude. Once again the lights of the suburb shone out under the wing, and all the crew could think of was leaving the area as quickly as possible. Major Zaytsev gradually took the aircraft into a bank. It was again under control.

The transcript of the cockpit voice recordings reads as follows as this point:

"5:06:08. Navigator: 'Altitude 150 meters.'
5:06:10. Commander: 'OK, turn'
5:06:27. Senior flight technician: 'Maximum bank 15 degrees.'
5:07:44. Deputy commander: 'Climb to 600 meters.'
5:08:43. Commander. 'The controls are functioning smoothly.'"

The lights of the sleeping city could still be seen off to the side

After a 26-minute flight the landing gear touched down.

Again citing the official report of the An-22 incident:

"The crew performed with great skill in this situation. Under these difficult and rapidly changing conditions, they demonstrated great self-control and succeeded in returning safely to their departure airfield."

"The factor contributing most to the crew's successful performance in this instance," deputy unit commander Lieutenant Colonel V. Orekhov pointed out, "was

a combination of great skill and self-control... And one other thing — mutual understanding. This same crew has been flying together for two years now. And all members have developed an outstanding grasp of the systems on this aircraft."

... The Anteus is a powerful aircraft. It created a sensation when it made its first appearance at the Paris Air Show.

Yes, the An-22 is an outstanding aircraft. Soviet pilots have set a number of world records with it. The Antheus is a powerful and reliable aircraft. It is with good reason, however, that you frequently hear people say that the air is a stern taskmaster. It will occasionally present the pilot with the most unexpected surprises and test the strength and reliability of the modern-day aircraft. And at the same time, of course, test the skill and courage of the pilot as well.

The crew of this Antheus under the command of Major A. Zaytsev passed this test with honor.

8963

CSO: 1801/328

AIR/AIR DEFENSE FORCES

MINELAYING FROM HELICOPTERS REVIEWED

Moscow KRASNAYA ZVEZDA in Russian 18 May 84 p 1

[Article by Sr Lt V. Lavrenyuk, Group of Soviet Forces in Germany: "A Helicopter Lays Mines"]

[Text] The intensity of the battle was growing. It seemed that the attacking force was assured of total success: the attacking subunits, having neutralized the "enemy" in his strongpoints, would be reaching the crossing point at any moment in a swift dash. At this time reconnaissance reported that the opposing force's formidable tank reserve was advancing into the flank of the attacking force. This unexpected counterattack threatened to thwart the successfully initiated offensive action.

The commander made a decision: to block the path of the "enemy" tanks with a minefield. But the situation precluded employing an engineer subunit for this purpose. Calculations indicated that it could not reach the mining area by the designated time. A decision was then made to lay the mines by helicopter.

Section commander military pilot 1st class Capt V. Modin thoroughly studied the situation, the specific features of the targeted minelaying area and, perusing a map, selected a route which provided a rapid, undetected approach to the designated point. Finally preparations were completed. They received the go-ahead to take off.

Captain Modin lifted off precisely on schedule. He was well aware of the fact that it was essential to place the mines at the designated point just before the arrival of the tanks. If they were placed too early, they would be spotted by "enemy" reconnaissance, and they would have time to breach the minefield by the time the main forces arrived. And of course they could not count on succeeding in the mission if the helicopter reached the designated area late.

Taking advantage of ravines, gaps in the forest, and hillslopes, the helicopter confidently proceeded toward the objective at low level. Captain Modin alertly scanned the air and ground situation.

They finally reached the area to be mined. It was a good choice: the helicopter was concealed from the "aggressor" by a pine-covered hill.

Modin gave the command to flight technician Lt Tech Serv A. Nikitin and at the same time noted the reference landmark toward which he was to maintain a precise heading during the minelaying.

The helicopter-borne mine-dispensing system was ready to go. There were experienced combat engineers on board.

The chute was lowered, and the command was given: "Commence dispensing mines!" From this moment on much depended on the skill of the combat engineers. Nor did Captain Modin have an easy job of it: it was essential rigorously to maintain the specified flight parameters, since this determined mine spacing and correctness in mine placement.

The helicopter flew its first pass, a second, and a third one.... Several rows of mines were laid. Captain Modin proceeded to head back to the field.

...The "aggressor" tanks, charging out of the woods, proceeded to redeploy into combat formation, but they were unable to accomplish this. Several tanks were "taken out" by exploding mines. Confusion ensued. The attacking force exploited this confusion, thwarting the "enemy" counterattack.

3024

CS0: 1801/335

NAVAL FORCES

SHIP COMMANDERS' TRAINING DISCUSSED

Moscow KRASNAYA ZVEZDA in Russian 16 May 84 p 2

[Article, published under the heading "Returning To A Previous Article," by Rear Admiral R. Zubkov, chief navigator of the Navy: "Which Variation Is Optimal?"]

[Text] Shipboard equipment and weapons are improving year by year, and the missions assigned naval forces are becoming increasingly more complex. The demands imposed on ship commanding officers, on their political maturity and professional competence are also growing year by year. In order successfully to run a modern warship, an officer must be a skilled mariner, tactician, know navigation, missilery, gunnery, mine and torpedo warfare, possess solid engineering training, as well as a professional grasp of electronics, sonar, and communications.... One is hard put even just to enumerate everything that is essential to a ship commanding officer.

How can one ensure that this entire immense volume of knowledge is thoroughly assimilated, that a person does not drown in the flood of information inundating him? These are not simple questions. Of course the navy has a well-conceived scientifically validated system of training command personnel. But this does not mean that all problems in this area have been solved. It is not surprising that the press is addressing them. I recall, for example, an article by Capt 1st Rank A. Bobrakov entitled "The Optimal Variation," which appeared in the 21 May 1983 issue of KRASNAYA ZVEZDA. The author addressed a number of crucial issues pertaining to training command personnel. To be true, in my opinion not all were sufficiently fully discussed. After reading the article one had the impression that the author saw the key to solving all problems in protecting commanding officers from, so to speak, "superfluous" knowledge. It is doubtful that they need such protection.

In my opinion one should search much deeper for the essence of the problems of training ship commanding officers.

I shall cite the following fact. It was once ascertained during an inspection of a naval ship that its recently-appointed commanding officer had serious deficiencies in his navigator training. When I inquired as to the reasons, the officer admitted that, try as he might, he was unable in a short period of time to master that vast range of knowledge which was imperiously demanded of

him by his job as commanding officer. It would seem that the difficulties experienced by this officer are entirely objective and that one should not complain either about him or his superiors. A deeper analysis revealed, however, that many of those items, including in navigation, the study of which this young commanding officer was just planning to commence, should have been assimilated by him long ago, in his previous job assignments. The reason for the present excessive work-loading of this officer was that he himself, when he had been a subunit commander and executive officer, had worked on improving his knowledge without adequate thought to the future, as well as the fact that his superiors were shortsighted, as they had failed to prepare him in advance for a commanding officer job assignment.

Unquestionably the range of that knowledge and those skills which are essential to a commanding officer will be constantly expanding. This is why a genuinely optimal variation is seen primarily in having an officer gradually assimilate the entire volume of requisite commander knowledge and skills, over the course of many years, becoming solidly reinforced at various stages in his service career.

An officer passes through a number of job slots on the road to the bridge: group commander, division officer, department head, senior watch officer, and ship's executive officer. This alone presupposes that from his very first moment on board ship, he should be assimilating an increasingly growing volume of commander duties. Of course this is possible when commanding officers and superiors are constantly concerned with ensuring that he does not become bound tightly within the framework of his area of specialization, that from his lieutenant years he learns to think and make decisions on a scale of the ship as a whole.

I recall in this connection an example of a submarine commanding officer, Capt 2nd Rank N. Renzayev (he subsequently rose to the rank of rear admiral). This highly experienced submariner had a hard and fixed rule: each and every officer should be viewed as a potential commanding officer. He would always give the specialist officer hands-on-experience in the control room, on the conning tower, would teach them to moor and drop anchor, supervise submarine surfacing and diving, and he would teach them the art of organizing for combat and tactical skills. And it is not surprising that many of his subordinates became commanding officers. Incidentally, even those who did not follow the command line recall these lessons with gratitude. I judge on the basis of my own experience. During the time I was assigned as a staff specialist in a number of units and combined units, I was always helped by the commander training I received at the beginning of my career.

In order to prepare an officer in a systematic and purposeful manner to carry out commander duties, there is no need to invent any special, esoteric devices. The most optimal of these are determined by the appropriate documents and by the very structural edifice of shipboard duty. Ask any ship's commanding officer, and he will surely tell you that he began training as a commander at that time when, wearing a watch officer's armband, he was learning to run the ship's watch or execute evolutions. The future commanding officer can acquire a considerable portion of the needed knowledge and skills while performing the duties of officer of the deck and navigator watch

officer. I would also like to state that in my opinion an officer preparing to command a crew should, regardless of his area of specialization, spend at least some time as combat direction center officer and engineering officer of the watch.

In short, the daily routine, the repeated performance of duties by an officer, and performance of ship's routine duties, if things are handled properly, is an excellent school of commander knowledge. Unfortunately not everybody understands this fact. Watch officers on some ships, stationed on the bridge, merely repeat commands given by others. This results in the waste of an excellent opportunity to develop in them the solid foundation of commander knowledge and skills.

In my opinion we also lose a great deal as a consequence of the fact that we do not always give sufficiently broad treatment to the principle of teaching officers one level higher than the position they currently hold. For example, the examination for performing the duties of a ship's executive officer is most frequently taken by officers who have already been given an executive officer assignment. For some reason the right granted to promising department heads to take tests allowing them to run the ship unsupervised is very rarely utilized. And yet it is very important to earn such authorization early in an officer's career, when he is not yet burdened with the executive officer's job. Such an officer, as is indicated in particular by the experience of Capt 3rd Rank Yu. Polyakov, Capt-Lt Ye. Solomentsev, and Sr Lt S. Rodionov, more rapidly develops boldness of thinking and more vigorously forms breadth of tactical thinking. In addition, knowledge acquired at an earlier stage of one's career and subsequently reinforced repeatedly in practical activities always proves to be more solid.

The time one serves as an executive officer is of particular importance in the career of an officer who wishes to become a commanding officer. Ideally during this time he should reach his fullness of development as an able tactician and navigator, and a skilled indoctrinator so that, as soon as he is given his own command, he can immediately proceed on an active basis with commanding officer activities. In actual practice, however, many times things do not work out this way. And in my opinion the main reason is the fact that we sometimes have insufficient trust and confidence in executive officers. The executive officer, according to Naval Regulations, Service Afloat, is the primary deputy of the ship's commanding officer, but does he always in fact perform this role? The following situation, for example, is fairly typical. The ship's commanding officer goes on leave or a temporary duty assignment, and his ship is taken to sea not at all by his executive officer but by... the commanding officer of the neighboring ship. Of course an experienced commanding officer can ensure higher-quality performance of a given combat training mission than a still inexperienced executive officer. In seeking such an immediate benefit, however, do we not lose much more in the future -- will we not lose a knowledgeable, bold, well trained commanding officer?

I should like to mention one more item which is perhaps debatable but which in my opinion merits attention. I believe that the training of executive officers could proceed much more productively if during mock combat they spend more time alongside the commanding officer, helping him run the ship and

learning from his experience and know-how. At present this is sometimes made difficult by the fact that in a combat training situation the executive officer is sometimes busy organizing some type of ship defense or protection.

But now an officer has climbed all the steps up to the bridge and has been assigned a crew and a ship. I am convinced that if his preparation to be a commanding officer was done correctly, if his training contained the requisite system and purposefulness, he will be spared many problems in his development. This does not mean that no difficulties will be encountered. Of course they will, because once he becomes a commanding officer, an officer also enters a qualitatively new stage in his training. The practical realities of life will require that he redigest anew much of what he already knows, from the position of a commanding officer. He should learn actively to utilize his rich arsenal of knowledge, and he should learn to apply it innovatively in handling large and complicated problems. Those who organize and guide the training of ship commanding officers -- primarily unit and combined unit commanders -- should help him in this.

Unfortunately in some units the training of commanding officers differs little in form and content from the training of other categories of officer personnel -- the same training classes, seminars, quizzes, and group exercises. Frequently officers possessing differing experience in commanding a ship, sometimes the commanding officers of ships performing totally disparate missions, take part in these activities. At times this is not very effective.

Take commander training subject matter. Examining this subject matter in some units and combined units, one cannot help but ask: Are these same topics not sometimes studied when an officer is in the process of obtaining authorization to run a ship unsupervised? Would it not be better to utilize command personnel's precious time on deepening their knowledge?

The procedure of taking examinations for authorization to handle a ship unsupervised and the tests to confirm this authorization also needs optimizing. It is high time for the testing of commander knowledge in given specialized areas to be handed over to staff specialists. I believe that it would be more advisable to conduct such tests in the presence of other commission members -- ship commanding officer, chiefs of staff or deputy commanders of units and combined units.

On the whole I should like to draw the following conclusion: it is necessary to work more vigorously to bring the training of ship's commanding officers closer to those daily concerns and practical matters with which they deal on a daily basis. Also necessary in a number of instances are officer training exercises, but nevertheless the principal attention of the admiral and his staff should be directed toward effective training of commanders in the course of preparations prior to putting to sea, while performing tasks at sea, and at debriefings and critique sessions on cruises and exercises. If things are arranged in this manner, an officer will indeed assimilate that which is most important for him to master in order to handle his ship, for combat, and there will be no longer a problem of overloading commanding officers with "superfluous" knowledge, to which Capt 1st Rank A. Bobrakov drew our attention.

Of course some of the statements in this article could be debated. But there is no dispute about the fact that the search for an optimal variation of training ship's commanding officers, a comprehensive, profound, and innovative search, should continue.

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CSO: 1801/335

SPECIAL TROOPS

FORMALISM IN RADIOMEN'S EXERCISES ASSAILED

Moscow KRASNAYA ZVEZDA in Russian 22 May 84 p 2

[Article, published under the heading "A High Degree of Effectiveness to Competition": "Things Were Smooth on Paper"]

[Text] This signal unit ended the last training year with modest performance results: it received a mark of only satisfactory at the final performance evaluation. The performance evaluation for the winter training period indicated that the signal troops had taken a step forward in combat proficiency. The unit commander responded to this conclusion by the inspecting officers in a very reserved manner. He spoke with concern about unresolved problems and, in particular, about the fact that he was concerned by the poor level of job proficiency on the part of certain officers and their poor activeness in improving teaching methods and in organizing competition. For these reasons the socialist competition pledges adopted for the winter training period had not been fully met in certain subunits.

Unfortunately some officers defended the viewpoint that deficiencies in personnel duty performance, training, and competition were phenomena which were no longer typical of the unit. On the other hand, they claimed that performance success was now resting on a solid foundation.

Political worker Maj A. Volodin, for example, could not agree at all that formalism to the detriment of content in organizing competition is frequently evident in the company under the command of Sr Lt V. Tryapitsyn. His opinion seemed to be supported by display boards showing socialist pledges made at the beginning of the year and a board displaying photographic portraits of competition leaders and a display showing marks for combat performance. On the previous day, however, in speaking with Capt V. Kokhtachev, an officer at unit headquarters, we had established that not everything reflected in the graphic publicity materials corresponded to reality. Take the marks, for example. In April of this year the crews of the platoon under the command of Sr Lt S. Vinogradov had on several occasions been given marks of unsatisfactory by a senior-level officer. And yet the display indicated marks of good for these days. Incidentally, the crew had received one of the marks of unsatisfactory through the fault of Jr Sgt Ye. Slobodskiy, who in addition is not yet distinguished by a high degree of efficiency. Nevertheless his picture appears on the company competition leader board.

It was ascertained that indoctrination work pertaining to performance marks and competition results is conducted in a sporadic manner in the company. Sometimes overstated marks are placed on the display boards and stands. Senior Lieutenant Vinogradov himself has frequently been unobjective in grading the performance of his men at drills. All this dampens people's ardor and diminishes the intensity of their comradely rivalry.

At the end of our conversation Major Volodin was forced to admit: "Of course we do have deficiencies; not all of them have been eradicated."

Soon a special tactical exercise began. At a certain stage in the exercise performance noticeably dropped off and proceeded according to a scheme with which the crews were intimately familiar.

I accompanied Captain Kokhtachev to the installation where Senior Lieutenant Vinogradov's men were situated. I must admit that from the very outset one's attention was drawn by the prevailing calm. Some of the specialists were standing by the smoothly-humming equipment and engaged in a discussion. Others were leisurely wiping equipment.

The situation was somewhat different in the equipment room in which this company's commander, Sr Lt V. Tryapitsyn, was situated. On his command the NCOs and enlisted personnel donned gas masks and worked in them for about 10 minutes. The officer then had several radio operators switch places.

Suddenly the flow of information increased. Pvt R. Belousov, who had switched on a radio set on the commander's instructions, was unable to make contact with the other station: all he could get was noise. Senior lieutenant Tryapitsyn ordered Sgt N. Matskavichus to help Belousov. But they were unsuccessful. Then Jr Sgt O. Zhuchkov went over to Belousov's station. But even the three of them were unable to establish communications contact. It is hard to say whether Senior Lieutenant Tryapitsyn was reproaching himself at this moment for the fact that he had not ordered the radio operator to check his set in advance, but it was an unpleasant moment. Finally after the specialists performed a procedure on his instructions, the noise abated and the other station's call sign came through. It was later ascertained that they had failed to establish communications contact due to a very simple problem in the antenna cable connection.

Problems at the exercise also occurred through the fault of the radio maintenance personnel and other specialists, who had not been adequately taught to respond intelligently and innovatively in unexpectedly arising unusual situations. Incidentally, this shortcoming was also noted in the inspecting officer's summary report. And although Senior Lieutenant Tryapitsyn and other officers tried to argue that the problems which had occurred were nothing but sheer bad luck, one would be hard put to agree with their opinion. I recall that microwave relay maintenance man Pvt V. Krivitskiy, who had served in the subunit almost a year, merely shrugged his shoulders at the question of what he would do in a combat situation in case of failure of a telephone unit. Fellow crew member Pvt V. Alimov was unable to give the performance standards on deployment of the equipment he handled. I was struck by the fact that many of the signal communications personnel were only

3rd-class proficiency rated. "Could it be that they were only inducted last fall?" I wondered.

"I have been in the service for a year,,," Private Belousov replied to my question. "I made a competition pledge to pass the test for 2nd class by this spring, but I have been unable to prepare. There has been little time available for training classes and drills."

Sergeant Matskavichus, who had unsuccessfully attempted to help Belousov at the exercise, has been in the service for a year and a half. He too, however, is only 3rd class. He tried to boost his proficiency rating last fall, but without success. It seems that it is no easy matter to pass the tests.

"It's not the same as here in the radio room," explained Sergeant Matskavichus, and added: "They conduct training activities in the classroom as well, but as a rule they keep working on the same problems."

Drills also most frequently involve well-practiced variations. The main thing is to receive a high mark. But the conditions in which training drills are held and the measure to which training problems are complicated at these drills are not such important matters. Hence the poor performance results in the specialized training of signal personnel. It is for this reason that many pledges have not been achieved in this unit. As they say, "Things Were Smooth on Paper...."

Of course it is primarily the commanding officer, Senior Lieutenant Tryapitsyn, who bears responsibility for the state of affairs in the company. At the same time one must consider the fact that he, and this holds even more true for the young platoon commanders, lacks experience and methods skills. For some reason I can still see the officers' guilty, puzzled glances at the moments when the inspecting officers were making adverse comments. And the questions, which essentially boiled down to the following: if we are doing something wrong in organizing training activities, how should we do it? And later they listened with interest to what the inspecting officers had to say about training classes and drills in vanguard units. At the time I gave thought to the fact that this unit also contained experienced officers, capable of conducting demonstration classes in an instructive manner and sharing their knowledge on how better to organize competition and to ensure a spirit of competitiveness when working on training problems. Surely the experience and know-how of Maj Ya. Mikhail'chuk would be valuable to the young commanders. Most of his men have qualified 1st and 2nd class and have mastered related occupational specialties. They received the best marks on the final performance evaluation and have met their socialist pledges. At one time the unit's party activists intended to synthesize and disseminate their know-how, but unfortunately this fine idea was never carried out.

In general terms, the unit commanding officer must devote greater concern to the professional advancement and development of his young officers. He should also address the following matter, for example. One of the platoon commanders in the company headed by Sr Lt Tryapitsyn frequently travels from the unit on temporary duty assignments. Obviously this does not have the best effect on the training and indoctrination of his men.

Or take the following typical item. Upon examining unit orders and the officers' service records, I failed to see an instance where a single one received a commendation this year for initiative displayed in training classes or drills. And yet initiative had been displayed.

And there also occur instances where the officers at headquarters themselves have a formalistic attitude toward planning and conducting training classes, combined drills and exercises, and fail to improve their job proficiency. Unfortunately this was the case during the winter period of training.

I believe that the people in the unit will respond objectively and with integrity to the revealed deficiencies and will take effective measures to correct them, to [last few lines missing from document].

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U.S. STRATEGIC NUCLEAR EXERCISES DISCUSSED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 7-11

[Article by Capt 1st Rank Ye. Chugunov: "The United States: Counting on Preparations for Nuclear War"; from reports in the foreign press]

[Text] The essence of the American administration's hegemonistic policy in recent years is made up of the principle of "strength" which envisages the "complete and indisputable" military superiority of the United States sufficient for the attainment of victory in conventional as well as nuclear war. The primary means for the realization of this extremely aggressive course consists of the U.S. and NATO armed forces, the basis of whose strike power are the American strategic offensive forces. The country's military-political leadership is devoting paramount attention to the development and constant improvement of strategic weapons systems and means for their combat control, allocating annually for these purposes (with consideration of all indirect expenses) up to 20 percent of the Department of Defense Budget.

U.S. strategic offensive forces include the so-called "strategic triad"--land- and sea-based nuclear missile forces and strategic aviation. By the beginning of 1984, the U.S. strategic forces numbered more than 2,090 carriers capable of delivering about 12,000 nuclear warheads to targets in a first strike, including: 1,052 ICBM launchers, up to 40 nuclear ballistic missile submarines with 664 ballistic missiles, and approximately 375 strategic bombers. In the future, as the foreign press writes, the combat potential of the strategic forces will grow even more.

The principles for the combat employment of U.S. strategic forces are defined by the concept of "active counteraction" which was adopted in 1980 and which presumes the multivariant employment of nuclear weapons by the launching of strikes which differ in scales--from single demonstration strikes to unlimited strikes (against all categories of targets). Here, along with the mass employment of nuclear weapons in the initial stage of the war, which is the main content of concepts of past years, the possibility of conducting a protracted nuclear war for several weeks or even months is conceived.

These basic propositions found most direct reflection in the combat training of strategic offensive forces, in the course of which primary attention is devoted

to questions of combat readiness, the conversion of men and weapons from a peacetime to wartime status, the working out of various versions for the conduct of nuclear war, and ensuring continuous and reliable command and control.

It is known that the combat training of strategic forces is organized with consideration of the constant combat alert of almost all personnel of the ICBM forces, about 15 nuclear ballistic missile submarines [SSBN] (more than 250 missiles on board), and 30 percent of the strategic bombers. The basic forms for training these forces are command and staff exercises (KShU) and combat-readiness tests. In 1982-1983 the strategic forces participated in strategic command and staff exercises "Ivy League-82" and "Proud Saber-83" and in the biggest annual SAC exercise of the "Global Shield" type as well as in a number of other exercises and checks conducted in accordance with plans of the Joint Chiefs of Staff (JCS), the SAC commander, and the commanders of U.S. Armed Forces in the zones of Europe and the Atlantic and Pacific Oceans.

A typical command and staff exercise, which western specialists consider to be the biggest in the entire history of nuclear weapons' existence, was "Ivy League-82." As the foreign press reported, it took place under conditions of absolute secrecy and had the goal of demonstrating the reality of plans for the conduct of nuclear war and the possibility to survive and even gain the victory in it. Directed toward the implementation of these delirious plans of the U.S. militarists is the now unprecedented arms race whose main goal is the attainment of military superiority over the USSR and other countries of the Warsaw Pact. "We do not require military superiority, we do not intend to dictate our will to others," stressed Comrade K. U. Chernenko in a speech at the February plenum of the CPSU Central Committee, "but we will not permit demolishing the military balance which has been attained."

The "Ivy League-82" command and staff exercise lasted for five days (1-5 March 1982). Its participants included organs of highest military authority, staffs and command posts of the basic and special commands, the Federal Disaster Assistance Administration, and a number of civilian ministries and departments. All means of nuclear attack and control and communications systems also went into action. The role of President was played by the former Secretary of State Rogers, of vice president by the former director of the CIA, Helms, and of the other members of the National Security Council, by their deputies or assistants. Altogether, up to 1,000 members of the state and military apparatus of the United States were involved in the exercise. Immediate direction of the exercise was accomplished by the Chairman of the Joint Chiefs of Staff. President Reagan and his closest associates observed the course of the working out of the problems which had been planned.

Against a common background with the indicated militaristic "game" the Federal Disaster Assistance Administration conducted an exercise to check the readiness of civil defense forces to function under conditions of "enemy" nuclear influence, which had the code name "Rex-82/alpha." In both exercises the military-political leadership of the United States persistently imposed the thought that a nuclear war can be survived and can even be "won."

Regularly, once a year, the strategic forces participate in a JCS command and staff exercise to work out plans for mobilization deployment and the conversion of the country to military status under conditions of a sharp aggravation of

the situation: "Nifty Nugget" (1978), "Proud Spirit" (1980), and "Proud Saber" (1982).

The command and staff exercise "Proud Saber" began on the night of 24-25 October without preliminary informing of the participants (Federal Disaster Assistance Administration, 35 civilian ministries and departments) and continued for two weeks. In the course of its accomplishment reserve components were mobilized, the ability of rear services organs and enterprises to provide and restore combat equipment which had been put out of action was checked, the requirements of the armed forces and the capability of the war industry to satisfy them were studied, and field hospitals and supply points were set up.

The Pentagon allots a special place in the system of training the U.S. strategic offensive forces to the "Global Shield" exercises. Beginning in 1979, they have been conducted annually; here the composition of the forces and the scales have been increasing from year to year. Their basic goal is to work out various versions for the unleashing and conduct of nuclear war, check the combat readiness of the ICBM forces and strategic aviation for the accomplishment of missions in launching nuclear missile strikes, and demonstrate the power and capabilities of the U.S. strategic offensive forces. The next such exercise was conducted this April. The armed forces of Canada, a number of European NATO countries, and Japan were called upon to participate in it along with the U.S. strategic forces. As the foreign press reported, up to 150,000 men took part in the exercise.

Operational elements of the highest military command, SAC headquarters and command posts (Figure 1) [not reproduced], large units and units of ICBM forces, individual units and subunits of the Air Force Reserve and the National Guard, tactical and military transport aviation, U.S. Marine Corps aviation and the Canadian Air Force, and nuclear missile submarines were called upon to participate in such exercises (altogether more than 100,000 men and 700-800 aircraft, of them more than 400 strategic bombers).

Worked out in the course of the exercises were all aspects of the accelerated conversion of the strategic forces from a peacetime to wartime status, including the actual dispersal of strategic aviation to reserve airfields, with B-52 and FB-111 strategic bombers on combat alert in the air, the refuelling of aircraft in the air, and the deployment of a reserve system for command and control with a VKP [airborne command post].

The dispersal of strategic aviation was accomplished to reserve SAC airfields as well as to tactical air airfields, Marine air airfields, and civilian airfields (altogether 100-150 of them were used). In accordance with the "Giant Lance" program the aircraft flight routes passed over the northern part of the territory of the United States, Canada, Alaska, the Atlantic Ocean, the island of Guam, and South Korea.

In the course of the exercises' main stage, plans were worked out in launching nuclear missile strikes by ICBM, SSBN, and strategic air forces (in the 1981 exercise more than 400 aircraft actually took off in 10 minutes, Figure 2, [not reproduced]).

The scenarios for all exercises envisioned the actual launchings of one or two ICBM's from the Vandenberg Missile Range (Figure 3) [not reproduced]. In 1981, a special missile-retransmitter was launched which was intended for the transmission of the President's order concerning the employment of nuclear weapons in case all remaining means of communication go out of operation.

The actions of the personnel on the exercises took place under conditions as close as possible to those of combat. In the course of some of them a so-called special "Red Team" was formed to simulate "enemy" electronic warfare [EW]. It consisted of 20 separate groups disposed over the entire territory of the United States close to SAC installations. Their mission included the creation of jamming of radio communications equipment and the simulation of actions by "enemy" sabotage groups in knocking out ground equipment and wire communication lines, and the SAC personnel were to eliminate the malfunctions and use bypass channels of communication.

Since 1980, the command of the U.S. Armed Forces has devoted great attention to working out methods for the employment of strategic aviation in non-nuclear war as part of the "Rapid Deployment Force" of the NATO OVS [combined armed forces] in theaters of war and in theaters of operation (land and ocean).

For actions as part of the "Rapid Deployment Force" the Strategic Air Command allocated a special strike group of strategic aviation which included B-52 strategic bombers (almost 30 aircraft), about 10 KC-135 tanker aircraft, RC-135 reconnaissance aircraft, SR-71 and U-2 aircraft, an airborne command post (EC-135), AWACS and command and control (E-3A), and EW (EA-6B) aircraft. The training of the strike group has been conducted especially intensively since the beginning of the 1980's. All exercises with its participation took place on the territory of the United States in areas similar in their geographic conditions to the Near and Middle East, and only on Exercise "Bright Star" did it operate far beyond the limits of the United States. Thus, 6 B-52H bombers accomplished a nonstop flight from Grand Forks and Minot Air Bases (United States) to the area of Egypt, bombed the range (each one dropped 27 500- and 700-pound bombs), and returned to the United States, covering a total of more than 24,000 kilometers in 30 hours without landing (with several aerial refuellings). The following standards were established for the air units: preparation for the flight from the United States to the conflict area--in 24 hours after receiving the order for the flight; the flight, deployment to the conflict area, and preparation to participate in combat operations from forward airfields--36-48 hours.

In the course of measures in combat training, problems of coordination of the armed services were regularly worked out. Thus, participating in the Air Force exercise "Busy Observer," B-52 aircraft conducted a search for ships on the ocean expanses and tracked their activity from great altitudes.

In addition, U.S. strategic aviation was involved in big exercises of the NATO combined armed forces and in several others. In the course of such measures, it accomplished missions in the air support of ground forces, laying minefields on the sea, the conduct of aerial reconnaissance, and the destruction of sea targets. For example, in 1982, judging from reports in the foreign press, aircraft of strategic aviation participated in exercises of the NATO combined armed forces "Cold Fire-82" (five B-52's were deployed for this purpose at the

(Ferford) Air Base, Great Britain) and "(Kristid kep)" (three B-52's) as well as in the American-Australian "Freedom Pennant-82" exercise.

As is evident from publications of the foreign press, in the course of exercises of recent years special attention was devoted to working out problems in the adoption of a decision for the employment of nuclear weapons and the continuity of presidential authority. Certain light was thrown on this carefully concealed procedure by the American press and television immediately after the well-known attempt on the life of Reagan in 1981. Judging from these reports, the President of the United States (the commander in chief of the country's armed forces) is the only person who has the right to issue the order for the employment of nuclear weapons. He can make such a decision jointly with the secretary of defense and the chairman of the Joint Chiefs of Staff, and in extreme cases-- personally.

Not being content with the training of the armed forces for nuclear war, the American "hawks" are whipping up a nuclear psychosis among the civilian population in every possible way. Each day the newspapers and journals publish hundreds of articles on the so-called "military threat" on the part of the Soviet Union and the horrors of nuclear war are exaggerated in the press and by radio and television. All this is being done to frighten the American man in the street and to force him to contribute his dollars without a murmur to the production of new types of weapons allegedly necessary for his defense.

All these militaristic preparations of the U.S. imperialists and the sharp aggravation of the international situation which they have caused are imposing higher requirements on the level of combat readiness of the Soviet Armed Forces. "We must reckon with the ever increasing scope and dangerous nature of the exercises of the strategic offensive forces conducted by the American command and the exercises conducted within the framework of NATO," stressed member of the Politburo of the CPSU Central Committee and Soviet Minister of Defense, Marshal of the Soviet Union D. F. Ustinov in the article, "Struggle for Peace, Strengthen our Defensive Capability."

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FOREIGN MILITARY AFFAIRS

U.S. MECHANIZED DIVISION IN THE ATTACK

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 23-28

[Article by Lt Col S. Yegorov: "The U.S. Mechanized Division in the Attack"]

[Text] In recent years, in following the new military strategy of "direct confrontation" worked out by the Pentagon, the American command is conducting wide-scale measures to train its armed forces for the conduct of combat operations in any region of the world and, first of all, in Europe. This finds its reflection in the creation of qualitatively new means of armed conflict, the improvement of the organizational and manning structure of large units and units, the search for the most optimum methods for the employment of their increasing combat capabilities, and a review of views on their conduct of combat operations under contemporary conditions. As reported in the foreign military press, in the overall system of the United States' preparations for an aggressive war against the USSR and the other countries of the socialist commonwealth, primary attention is being devoted to working out problems in the organization and conduct of offensive operations which the American specialists consider to be one of the basic types of battle.

The main goal of the offensive, in the opinion of the Ground Forces command, consists of destroying the opposing enemy force, seizing territory, and suppressing his will for further resistance. Here, one of the basic ways for its attainment is inflicting destruction on the enemy at the very beginning of an operation (battle) simultaneously to the entire depth of his operational formation.

This proposition is officially reflected in the new concept for the conduct of combat operations which has been worked out in the U.S. Army and which has received the name of AirLand Operation (Battle).^{*} In its content, it is the highly maneuverable combat operations of formations of ground forces and tactical aviation which are clearly coordinated for place, time, and weapons being employed and which are conducted with the use of conventional, highly-accurate, chemical, and nuclear weapons and electronic warfare means to destroy the enemy to the entire depth of his operational formation. Its realization in practice, as is noted in the foreign press, means the use of all components of combat power--from psychological operations to nuclear weapons.*

* For greater detail in the "AirLand Operation (Battle)" see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE No 12, 1983, pp 3-7. (Editor).

In accordance with the concepts indicated above, offensive operations of a mechanized division will have the nature of an AirLand Battle and will be distinguished by decisiveness, swiftness of advance, and an increase in the spatial scale.

According to American regulations, the division may assume the offensive from the march or from a position of direct contact with the enemy (a deliberate attack). It is envisaged that the first method will be employed when attacking an enemy who has occupied a hasty defense and who is inferior in combat effectiveness, combat readiness, and mobility. In the initial period of a war the division may assume the offensive from assembly areas located at a distance of 30-80 kilometers from the border or directly from points of permanent disposition. This method is considered most typical under contemporary conditions for the conduct of combat operations. In the opinion of Western military specialists, its strong aspects will be the attainment of surprise and ensuring the relative invulnerability of the division's units prior to their crossing of the line of deployment. They include among its weak aspects incompleteness of data on the situation and the difficulty in organizing and implementing moving out, deployment into combat formation, and achieving the simultaneous attack of the enemy FEBA [forward edge of the battle area].

The second method will occur most often when assuming the offensive usually against a strongly fortified enemy defense. In this case, the possibility appears for a more detailed study of the enemy grouping and the terrain, and the simultaneity of the attack of the FEBA is also ensured. At the same time, it is noted that when preparing the attack the division, being in the zone of action of enemy tactical means of reconnaissance and destruction, may suffer losses in personnel and equipment. This reduces its combat capability prior to the start of active combat operations and hinders the concealment of the direction of the main effort and the attainment of surprise when launching the attack.

The mechanized division, as a rule, conducts combat as part of an army corps, being in its first or second echelon (reserve) on the main or secondary direction.

The division's role in the attack is determined by its combat mission and place in the corps operational formation. Depending on this, judging from reports in the foreign press, it may receive as weapons and reinforcements about 500 nuclear weapons, one or two reconnaissance battalions from a separate armored cavalry regiment, a brigade of field artillery (three or four 155-mm and 203.2-mm self-propelled artillery battalions), a company of troop-carrier helicopters, and one or two engineer battalions. For direct air support, it may be allocated for a day of battle about 100 aircraft sorties of tactical air, of them 10-20 for the conduct of reconnaissance. Air defense is organized in accordance with the plan of the army corps commander in which the allocation of a battalion of "Improved Hawk" surface-to-air missiles may be envisaged to cover its units and subunits from enemy air strikes launched from low and medium altitudes.

American specialists believe that in an attack with the employment of weapons of mass destruction it is not mandatory to create a superiority over the defender in conventional forces and weapons. It is envisaged that superiority over the enemy on the direction of the main effort will be attained by the skillful

employment of nuclear as well as conventional weapons for the simultaneous destruction of the troops' personnel and combat equipment of the second as well as the first echelons. This ensures for the attackers the weakening of the enemy, a reduction in his mobility and ability to conduct active combat operations, the prevention of the regrouping of his forces and weapons to restore the integrity of the defense, and the prevention of the approach of reserves from the rear.

Important significance in attaining superiority in a fight with an equal or numerically superior enemy should be allotted to the skillful selection of the forms of maneuver, the basic ones of which are the frontal attack, breakthrough, envelopment, and infiltration.

It is recommended that the frontal attack be employed as a form of maneuver only in those cases where the enemy has been reliably neutralized and deprived of the capability to make up his losses in the immediate future. It is characterized by a broad attack frontage and rapid exploitation of the results of the effect of fire on the enemy.

As a rule, it is recommended that the breakthrough be executed on a narrow sector of the front (3-6 kilometers) and with the creation of decisive superiority in forces and weapons.

The envelopment is considered the most preferable form of maneuver in the attack of a prepared enemy defense and when the latter has open flanks or gaps. It is executed by an envelopment of the enemy force from the flanks as well as by a landing in the rear to seize objectives and tactically advantageous terrain sectors. In the opinion of specialists, the envelopment achieves the greatest psychological effect on the enemy and ensures the maximum retention of the division's combat effectiveness.

The American regulations also consider such forms of maneuver as the wide envelopment and infiltration. The former is considered to be a variety of the envelopment and envisages the bypassing (airlifting behind) of enemy positions and the seizure of objectives in the depth of his defense. This, in the opinion of foreign specialists, may divert a portion of the forces and weapons of his first echelon troops to eliminate the consequences of this type of maneuver by the attackers and create favorable conditions for the launching of the division's main effort.

The latter is considered as something in the middle between the breakthrough and the envelopment. By its conduct it is possible to attain the occupying of advantageous positions in the depth of the enemy defense through secrecy of movement and the avoidance of battle. It is recommended that infiltration be conducted under conditions of limited visibility and when there are terrain sectors difficult of access or else gaps in the structure of the enemy troops' combat formation.

The division's combat mission in the attack is determined by the corps commander. A division which is operating in the first echelon receives an immediate and final mission (or immediate and final objectives). On the basis of the experience of exercises, foreign specialists consider the content of the former to be the destruction of the enemy's first echelon units, repelling counterattacks of

reserves, the breakthrough of the main defensive zone and the capture of a line (objective) at a depth of up to 20 kilometers from the FEBA. The final mission consists of completing the destruction of the enemy first-echelon division in its zone of attack, inflicting defeat on his operational reserves in coordination with adjacent large units, and the capture of a line (objective) at a depth of up to 40 kilometers.

The width of the mechanized division's zone of attack may be up to 40 kilometers, and of one operating on the direction of the main effort--20-30 kilometers.

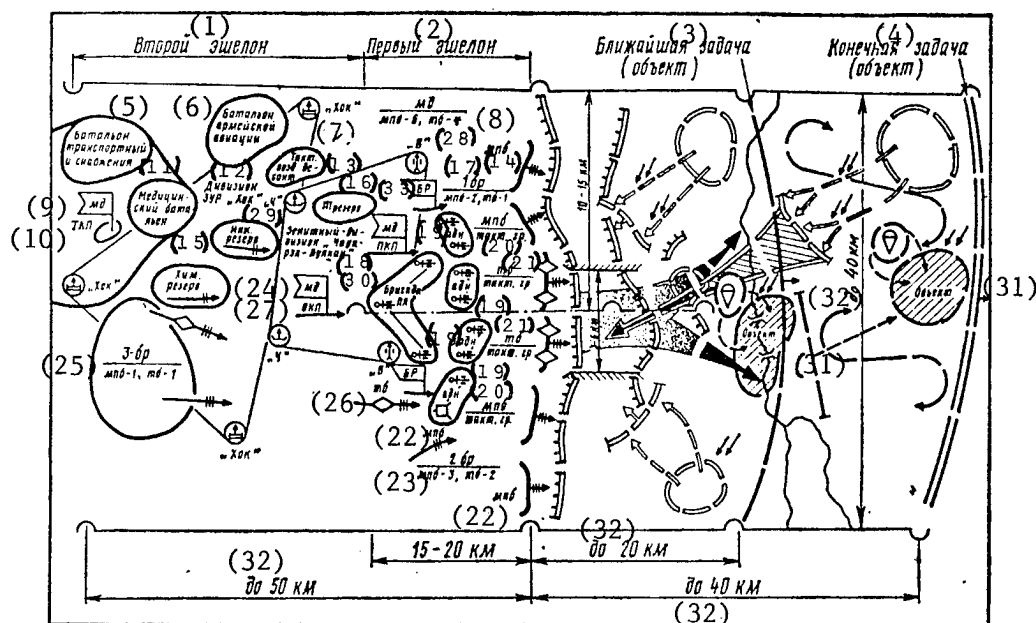
Upon receiving the combat mission the division commander and staff work out the plan of attack in which general questions of its organization, coordination, fire support, maneuver, and so forth are reflected. A special place is occupied by planning the so-called deep defeat of the opposing enemy which envisages the effect of fire on the entire depth of his combat formations through the simultaneous destruction of the first echelons by organizational and attached weapons and the launching of strikes against the second echelons and reserves, in which regard primarily by tactical aviation operating in the division's interests.

On the basis of this, it is recommended that the area of the division's forthcoming combat operations be divided into two interdependent zones: a zone of combat effect and of potential threat. The former encompasses a terrain zone with a depth of up to 70 kilometers from the expected line of contact in the direction of the enemy within the limits of which objectives (targets) which have been disclosed can be destroyed by the forces and weapons at the disposal of the division commander. The latter (up to 80 kilometers) is defined by the area behind the zone of combat effect where the following enemy echelons and reserves whose actions may influence the advance of the division main attack forces are located. These standards, according to data in the Western press, will be worked out in a practical manner in the troops as the transition is made to the new organization and with the arrival of contemporary armament.

In the attack, the division combat formation is structured with consideration of the possibility of ensuring an effective strength ratio, fire and maneuver at all stages of the attack, a high rate of attack, and the effective use of the combat capabilities of units and small units. A combat formation in two echelons is considered to be most expedient. Here, in the opinion of American military specialists, the first echelon should be stronger and ensure the inflicting of a powerful initial strike and the accomplishment of the immediate mission.

The elements of the division combat formation are the first echelon, second echelon (reserve), a tactical airborne (airmobile) assault force, a division field artillery grouping, the division grouping of air defense weapons, a grouping of army aviation, reserves (antitank, engineer, chemical), and covering forces (if they are sent out) (see figure).

The first echelon is intended for the breakthrough of the enemy defense and the accomplishment of the division's immediate mission. As a rule, it consists of two brigades numbering five or six motorized infantry and two or three tank battalions, from which two groupings may be created: a strike grouping (it operates on the direction of the main effort), and an auxiliary grouping (on a secondary direction). It is recommended that the former include up to five battalion tactical groups created on the base of the motorized infantry and tank battalions.



Key :

It is recommended that the second echelon (reserve) be used for exploitation and for accomplishment of the division's final mission as well as to repel enemy counterattacks, and reinforce or replace units operating in the first echelon in case they lose their combat effectiveness. It usually consists of a brigade

which contains two tank battalions and one motorized infantry battalion or all three tank battalions. In the course of the attack the second echelon moves behind the units of the first echelon at a distance of up to 20 kilometers in readiness to accomplish one of the missions indicated above.

The airborne (airmobile) assault force is intended for the maintenance of the division's high rates of advance by seizing and holding important terrain sectors, road junctions, and crossings over water obstacles until the approach of the attacking units, pinning down enemy reserves which are moving out, preventing withdrawal, and assisting the division's attacking units in the accomplishment of the combat mission. From a company to a motorized infantry battalion (without heavy weapons and equipment) from the second-echelon brigade may be allotted to it. The depth of the assault's landing depends on its composition and reaches 40 kilometers from the line of contact of the sides.

The field artillery grouping, in the opinion of the American command, should support the combat actions of the first-echelon units and subunits, support the commitment of the division second echelon (reserve), cover the flanks, and support the landing of the airborne (airmobile) assault. Depending on the number of reinforcement weapons allotted to the division, it may consist of four or five battalions. The grouping of division air defense weapons serves to cover the most important division facilities (means of nuclear attack, control posts, rear services facilities, and so forth). It includes the organizational Chapparal-Vulcan antiaircraft battalion and an attached battalion of the "Improved Hawk" surface-to-air missiles.

The antitank reserve in the division usually includes one or two antitank helicopter companies. Its primary mission is to combat tanks and other enemy armored objects, repel counterattacks, and reinforce the first-echelon brigades.

In the attack, the engineer reserve is usually assigned missions to lay minefields in front of the counterattacking enemy, support the moving out and commitment of the second echelon (reserve), and create conditions for the artillery to execute maneuver. Its composition may include from a combat engineer company to a battalion.

The chemical reserve is intended for the conduct of camouflage and concealment measures by laying down smoke screens as well as for the special processing of personnel. It includes the division company for protection against weapons of mass destruction and smoke subunits allocated from the corps organization.

Until the moment that they go into action, all reserves move behind the combat formations of the division's first-echelon units on the probable directions of their employment.

As an element of the division combat formation, the covering troops are allotted when attacking with moving out from the depth at the advance-to-contact phase. Judging from reports in the foreign press, a reconnaissance battalion or battalion tactical group is detailed in them. Their primary mission consists of the conduct of reconnaissance and ensuring the unimpeded moving out and deployment of the division main body. The total depth of the division combat formation with a two-echelon formation may reach 50 kilometers.

As is noted in the American regulations, the division's offensive operations consist of four phases: advance to contact, the attack itself, exploitation, and pursuit.

The advance to contact with the enemy occurs with the division's attack with moving out from the depth. The main goal which the commander pursues at this phase is the establishment or restoration of direct contact with the enemy. In the course of the advance to contact, as a rule the division moves out in a zone of 30-40 kilometers over two to four routes of march. In the opinion of U.S. military specialists such a front ensures the least degree of vulnerability to enemy nuclear and air strikes, hinders the conduct of reconnaissance, and creates advantageous conditions for the execution of a maneuver. In this period, it is envisaged that combat operations against enemy reconnaissance and security will be conducted by the forces of the covering troops, which prevents the premature disclosure of the division commander's concept by the defenders and ensures preserving the combat effectiveness of the main attack forces.

Judging from data in the foreign press, the attack itself can begin with the launching of so-called deep destruction by fire against the opposing forces to the entire depth of their combat formations' structure. American military specialists note that the main goal is the simultaneous destruction of the first echelons by organizational and attached weapons of the division and the launching of strikes against the second echelons and reserves primarily by the forces of tactical aviation which is operating its interests. It is envisaged that the enemy forces which have not gone into actions will be hit, disorganized, or isolated by strikes in the depth for their subsequent destruction. It is believed that tactical air aircraft, Lance operational missiles, field artillery weapons, and army aviation helicopters will be used to accomplish the deep hitting in the interests of the division.

It is recommended that the breakthrough of a deeply echeloned enemy defense with engineer improvements by the division's main attack forces be accomplished by the successive commitment of men and weapons from the second echelons (reserves) of the battalion tactical groups, brigades, and then of the division. In this regard, troops in action are not withdrawn to the reserve but are used to consolidate objectives (lines, areas) which have been captured, secure the flanks, and expand gaps which have been formed. In the opinion of foreign military specialists this furthers the maintenance of the required rate of advance of the division's attack grouping, the effective exploitation of the results of fire strikes, and pinning down the defending enemy's actions on a broader front.

The exploitation comprises the third phase of offensive operations. It begins with the commitment of the second echelon. The division's primary mission is not to give the enemy the opportunity to dig in and organize resistance on a new line, to force him to withdraw from positions which are being occupied, and thereby to create conditions for his pursuit with the goals of his encirclement and complete destruction.

It is recommended that possible enemy counterattacks in the course of the attack be repelled by launching nuclear and conventional strikes and the broad employment of helicopter gunships and first-echelon subunits and units which are operating directly in front of the counterattacking enemy. An important role in his

destruction is allotted to remote mining of the terrain and the employment of electronic warfare means to disrupt the command and control of the counter-attacking grouping of troops.

The second echelon (reserve) is used on the direction of the most obvious success, which permits maintaining the high rate of attack. Prior to its commitment, strikes by the troops, artillery fire attacks, and air strikes are launched.

As noted in the foreign press, pursuit is executed to prevent the organized withdrawal of the enemy troop grouping from battle and to complete his destruction. It begins from the moment of the enemy's withdrawal along the entire front and can be conducted frontally as well as over individual (enveloping) directions. In the former case the division's units and subunits for frontal pursuit (usually armored), maintaining direct contact with the enemy, do not give him the opportunity to break away and occupy a defense. In the latter the enveloping units, exploiting the terrain, move out swiftly to the rear of the withdrawing grouping with the mission to block routes of envelopment [sic] and assist in his complete destruction.

It is recommended that tactical airborne (airmobile) assaults be employed in the course of the third and fourth phases of the attack. Exploiting the results of destruction by fire, they should not only seize and hold important objectives in the depth of the enemy defense until the approach of the division main body, but should also conduct active combat operations to assist the troops attacking from the front.

The command of the Ground Forces believes that the mean rate of the division's attack under conditions of the European theater of war will be about 50 kilometers per day.

After the division's accomplishment of the final mission it can consolidate on the line which has been attained or else receive a new mission.

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FOREIGN MILITARY AFFAIRS

U.S. GROUND FORCES NIGHT TRAINING DISCUSSED

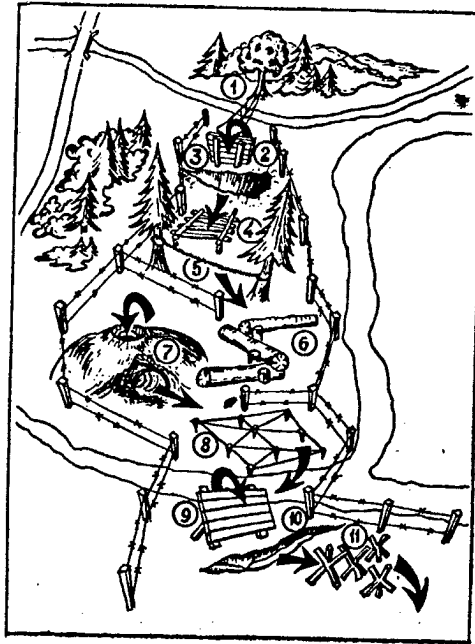
Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 31-32

[Article by Lt Col I. Aleksandrov: "Training Personnel of the U.S. Ground Forces for Night Combat Operations"]

[Text] In its militaristic preparations the command of the U.S. Armed Forces attaches great significance to training the Ground Forces for the conduct of continuous combat operations under any conditions and situation. The acceptance of new night vision instruments in the inventory and equipping not only fighting vehicles (tanks, infantry fighting vehicles, and armored personnel carriers) and helicopters but also artillery pieces, mortars, antitank missile complexes, and small arms with them are directed toward raising the combat capabilities of large units, units, and subunits during operations at night. At the same time, as is stressed in the foreign press, requirements for training the personnel, especially in the conduct of night battle, have increased.

Such training is being carried out most intensively in the 2d Armored Division (Fort Hood, Texas) which has been specially designated, according to the former Army chief of staff, E. Meyer, "for the conduct of night combat operations" in Europe. It is taking place in two phases: individual and as part of a subunit.

Individual training begins with the development and improvement, in the servicemen, of individual abilities for operations in darkness. The soldiers are taught to move silently, distinguish sounds and determine the distance to their sources, and recognize various odors (gas, fuel, food, cigarettes). In the opinion of American military specialists, this will help them to make an estimate of the situation correctly and adopt a decision in the absence of necessary night vision instruments. In addition, skills in handling weapons and combat equipment at night as well as rendering medical assistance are worked out. Night drills include orientation on the ground, live firing, and employment of illumination equipment and night vision instruments in the inventory of the subunit.



Obstacle Course for Night Lessons:

Key:

- | | |
|---|-------------------------------|
| 1. Suspension bridge (length 10 meters, height above water more than 1 meter) | 6. Timber obstruction |
| 2. Fence (height 3.5 meters) | 7. Pit and tunnel |
| 3. Antitank ditch | 8. Poorly noticeable obstacle |
| 4. Destroyed bridge | 9. Inclined wall |
| 5. Rope bridge | 10. Ditch with water |
| | 11. Antitank obstacle |

Training as part of a subunit is a combined night lesson which envisages crossing an obstacle course and "FEBA" [forward edge of the battle area] as well as live firing. The obstacle course (see figure), equipped with 11 elements of various degrees of difficulty, is intended for training servicemen in the procedures and methods for moving at night over difficult ground and developing in them dexterity, endurance, and boldness. Special stress is placed on working out mutual aid and mutual assistance (the second and ninth obstacles are crossed only jointly). The crossing of the first obstacle is accompanied by the surprise simulation of artillery bursts. The exercise on crossing the "FEBA" is directed primarily toward the psychological preparation of the servicemen. This is attained by the creation of a situation which is as close as possible to one of combat. During the personnel's crossing of a terrain sector (the "FEBA") by crawling machinegun fire is conducted with special ammunition, in which regard the bursts pass above the ground at a height of about 1.8 meters. As is noted in the foreign press, the accomplishment of such an exercise requires great self-control.

Live firings are conducted on the concluding phase of the lesson. Thirty targets located at a distance of 25-500 meters from the line for opening fire are allotted to each squad. Targets in the depth (2 groups of 10 targets each) appear at 25-30 seconds, and the personnel should hit 70-80 percent of them.

Targets which are located close (1 group of 10 targets) appear at 15-20 seconds, in which regard at least 90 percent must be hit.

The American command is also organizing similar training in other large units and units of the Ground Forces. It believes that the employment of night-vision instruments in combination with a high level of general training of the personnel will permit using for the accomplishment of combat missions in night battle the same forces and weapons as during the day.

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FOREIGN MILITARY AFFAIRS

FRENCH RITA AUTOMATED COMMUNICATION SYSTEM DISCUSSED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 32-35

[Article by Engr-Col Ye. Livanov: "The French RITA Automated Communication System"]

[Text] Drawing ever closer to the NATO military organization, France is expending considerable resources on creating systems of weapons and military equipment which, in their performance data and economic indices, are at the level of the corresponding models being developed in the bloc's member countries. In the opinion of foreign specialists, they can increase significantly the effectiveness of troop command and control on the battlefield.

The French RITA automated communication system (RITA--Reseau Integre de Transmissions Automatiques) is intended for the transmission of information over multichannel lines in the zone of action of an army corps. It is used for the transmission of orders from the corps commander and below and performs the role of connecting link between the fixed communication systems of the higher command and control element and the mobile troop subunits which are operating on the battlefield.

Development of the RITA automated communication system was begun back in the 1960's within the framework of the "Mallard" four-party program which did not receive further development, judging from reports in the foreign press, due to disagreements between the United States and the European countries in questions of placing orders for the production of the communication equipment. In the first half of the 1970's, each of the four main NATO countries began to create its own automated communication system to improve the effectiveness of control of national armed forces within the limits of a theater of operations. It is noted that existing operational-tactical communication systems TRI-TAC (United States), Ptarmigan [Great Britain), Autoko (FRG), and RITA (France) are identical in construction and operating principle and differ from each other only in technical features of design and technological solutions.

In developing the RITA system, great attention was devoted to questions of increasing reliability, jamming invulnerability, and maintaining the security of information being transmitted as well as protection against the damage-causing factors of a nuclear burst. In addition, requirements for its coupling with automated systems of other bloc countries and with the NATO NICS combined communications system were considered.

The RITA communication system is constructed according to the "grid" principle and is a territorially-distributed array at the nodes of which switching centers are located (Figure 1). An experimental communications network of this system was created in 1972 and, as is noted in the foreign press, it successfully underwent tests in French troop large units. In 1979, series production of the equipment was begun, and in 1982 individual elements of the system began to be operated in the ground forces of France and Belgium. Plans envisaged completely equipping a corps of Belgian troops with it in 1984 and, prior to 1986, all three French army corps.

The switching centers of the system are located at a distance of 30-40 kilometers from one another and are connected with each other and with the communication centers of headquarters and of large unit command posts [CP] by radio-relay lines. It is stressed that the center may be deployed on the ground in two hours (Figure 2). It is serviced by one officer and 15 soldiers. The transceiver equipment for radio-relay communications (Figure 3) operates on a band of 8GHz and provides the transmission of digital information over 24 telephone channels at a rate of 1152 kbits per second with the use of pulse-code modulation with time-division multiplexing of the channels. Information is transmitted at a rate of 48 kbits per second in the frequency band of a standard telephone channel with the use of delta modulation.

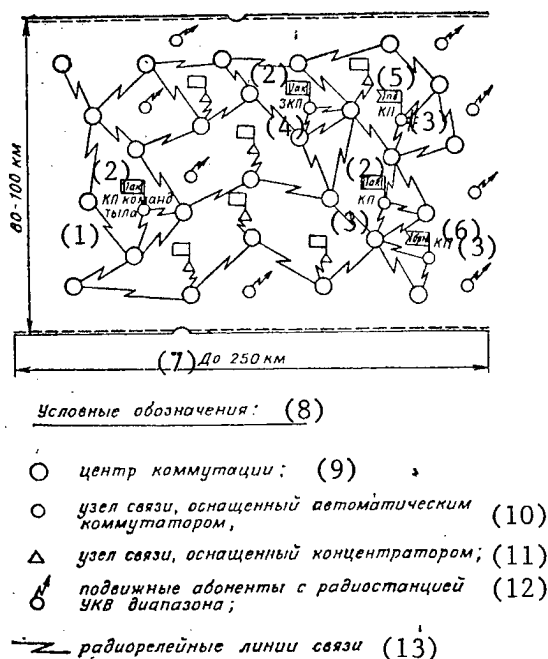


Fig. 1. Structural Diagram of French RITA Automated Communication System

Key:

- | | |
|--------------------------------|---|
| 1. CP, rear services commander | 8. Legend |
| 2. Army corps | 9. Switching center |
| 3. CP | 10. Communications center [CC] equipped with automatic switch |
| 4. Alternate CP | 11. CC equipped with concentration switch |
| 5. Infantry Division | 12. Mobile users with radio of UHF band |
| 6. Armored division | 13. Radio-relay communication lines |
| 7. Up to | |



Fig. 2. Switching Center of RITA Communications System Deployed on the Ground.

The set for this center also includes equipment for the input and search for users with a memory and terminal equipment. The dimensions of all units are standardized; they can be installed in racks which are placed in vans installed on the chassis of two-ton vehicles.

The equipment for the input and search for users with the memory provides access to 22 telephone channels. It includes an electronic switch (Figure 4) designed for the connection of 62 users. Control of the switch is accomplished using a computer of the 15M/125 type which, in addition to connecting the channels, is used to check the efficiency of the system as a whole as well as of individual communication lines. It is standardized for work with various data processors in real time, which ensures its employment in communication systems which have different operating capabilities. The programs placed in the computer memory permit selecting bypass routes rather rapidly and finding malfunctions which arise.

Manual switches and remote user input devices which are intended for servicing a small number of users can be connected to the nearest switching center using radio-relay and wire lines.

The RITA communication system can service more than 3,000 users having different terminal equipment depending on their requirements. Telephone, telegraph, and facsimile communication equipment as well as data transmission equipment are installed in headquarters and at command posts. Telephone sets with push-button dialing permit making a connection with the required user rather quickly. Some of them have telephone sets with priority ringing. When pressing the button for priority ringing a special device sends a signal which is heard until the connection is made. This same signal goes to the computer and it interrupts conversation being conducted at this moment if free communication channels are lacking. The priority connection is also monitored by a light located on the front panel of the set. Telegraph reports are transmitted at a rate of 600 bits per

second. It is noted that with facsimile communications documents recorded on standard form A4 can be transmitted in less than 50 seconds.



Fig. 3. Transceiver Equipment for Radio-Relay Communication of the RITA Communication System Switching Center

In the opinion of French specialists, the RITA automated communication system differs substantially from other identical systems for operational-tactical purposes. It can service mobile users through the creation of local UHF radio communication networks with a channel band of 0.3-2.4 kHz as well as by using wire communication lines. Mobile users may be mobile subunits (reconnaissance, chemical support, and others) which usually operate on infantry combat vehicles or armored personnel carriers and individual people. Mobile subunits are provided with radios which operate in one of three bands: 225-400, 400-900, and 1350-2700 MHz. Radios of the first band are supplied with transmitters with an output power of 15 watts, of the second--10 and 5 watts, and of the third--2.5 and 1.5 watts.

Individual mobile users are supplied with portable UHF radios with a band of 70-80 MHz which permit conducting telephone communications over one of 40 duplex channels with a separation of 50 kHz between them. Located on the front panel of the control panel of this radio are 12 buttons, ten of which perform the function of dial. A microphone and telephone are built into the control panel. The radio set also includes a cable one kilometer long to connect the user to remote input devices (Figure 5) located in easily accessible places in the troops' zone of action. These devices are connected by another cable with the nearest switching center. The input devices ensure automatic access of users who have a

permanent call number and they give mobile users the capability (if they have the corresponding equipment) to use all types of communication which the given system has available.

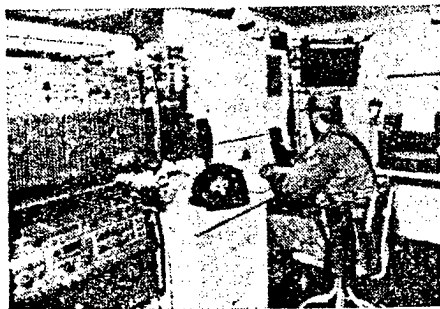


Fig. 4. Electronic Switch Installed at the Switching Center of the RITA Communication System



Fig. 5. Users' Remote Input Device

Local nets of the UHF band are created through the use of automatic couplers installed at the switching centers. One such device serves up to 40 users and permits them to connect into the communication system within limits of the area of operation of UHF radios. Mobile users can be connected with one or two switching centers depending on their location. But if the user goes beyond the limits of the zone of operation, he is automatically connected to another, closest center at which his coupler is found.

Information is transmitted over the system in the unclassified as well as classified form. Classification is accomplished using encoders located at switching centers and built into radios of the UHF band.

The RITA communication system is deployed in a specific area and forms an outline on the terrain, as a rule in the form of an irregular grid. New centers are connected to the outline of the system by means of radio-relay lines, so the structure of the system may change depending on the terrain relief. Users are connected to the nearest switching center and can move within limits of its service zone. In case of the destruction of some part of the system or its suppression by jamming, the user can be automatically switched to any adjacent switching center which is in operation.

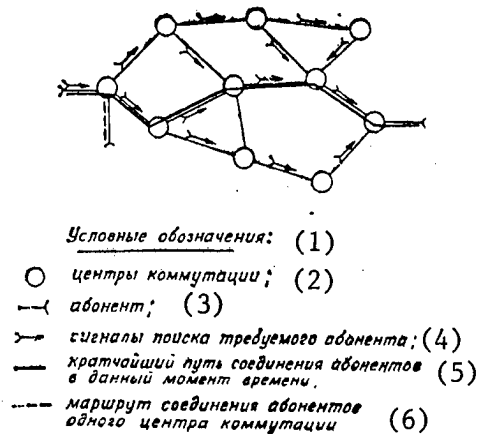


Fig. 6. Principle of the Search and Connection of Users in the RITA Communication System

Key:

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|--|--|
| 1. Legend | 5. Shortest path for connection of user at given point in time |
| 2. Switching centers | 6. Route for connection of users of one switching center |
| 3. User | |
| 4. Signals to search for required user | |

A permanent call number is assigned to each user. Search and connection are accomplished automatically. The connection of users who are serviced by the same switching center occurs by dialing an abbreviated call number. If the required user is serviced by another switch, the search signals query the memory of all centers, and the connection is accomplished over the shortest route at the given moment with the one from which a favorable response was received (Figure 6). Seven routes of connection are recorded in the memory for each user; they remain permanent in the area of operation of the given system.

The RITA communication system has four priority levels. The first is allotted to the corps command, and the second unites the users of its headquarters. The third level belongs to regular users who permanently use the given system, and the fourth—to persons with limited access who may accomplish communication on the command's decision.

Control of the RITA system and monitoring its efficiency are accomplished by a specially created monitoring center which consists of four sections. The first is intended to monitor and repair the data transmission network on the basis of readings of the monitor unit and computer with which this center is equipped. In it are a control console and teletypes. The second section monitors the operation of the equipment of the system's radio relay and wire lines. It includes two consoles with an alphanumeric and one with a graphical display of information as well as teletype. The third section monitors the correctness of use of the allocated frequency band using a console with the alphanumeric display of information and teletype. And finally, the last section monitors the operation

of the switching center directly (communication capacity, operational capabilities, malfunctions, and others). It contains a console with the alphanumeric display of information. The monitoring center is connected to the RITA system using four communication lines of which two are transmitting and two are receiving.

The RITA is coupled with the statewide communication system of France, the combined NATO NICS communication system, and with automated operational-tactical communication systems of the NATO countries. In addition, it can be used to transmit orders for the operational coordination of the various combat arms in a theater of operations through the employment of manual switches and the entry of the UHF band in the radio net. Its equipment is emplaced and transported on two-ton (4x4) TRM2000 cargo vehicles of the Reno Company. It is noted in the foreign press that about 2,000 such vehicles will be necessary to service three French corps.

In the opinion of the French command, the complete deployment of the RITA automated communication system, which it is envisioned will be accomplished in the middle of the 1980's, will improve significantly the effectiveness, survivability, and quality of communications and, consequently, the effectiveness of the command and control of large units and units.

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FOREIGN MILITARY AFFAIRS

RECRUIT TRAINING IN THE U.S. ARMY DISCUSSED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) p 36

[Article by Lt Col I. Alekseyev: "Training Recruits in the U.S. Army"]

[Text] Along with the receipt of new types of weapons and combat equipment by the troops, the American command is improving forms and methods for training the personnel which are available and developing more effective ones. As reported in the foreign press, an integrated program has been adopted for training recruits in the Ground Forces, OSUT (One Station Unit Training), in accordance with which going through the course of basic military training and primary specialist training in one training center as part of one training subunit is envisaged.* Training in the new program is being conducted most intensively in the Infantry Training Center (Fort Benning, Georgia) where, prior to last year, recruits mastered three basic specialties: automatic rifleman, mortarman, and operator of the TOW antitank rocket complex. The training program is intended for 13 weeks and is conducted in four stages.

The first stage (three weeks) includes lessons on the history and organization of the U.S. Ground Forces, routine garrison service, and marching drill. From the first days of training, special stress is placed on the observance of military discipline and implicit obedience as well as on the physical training of the servicemen. In addition to a complex of morning physical exercises, five- and eight-kilometers cross-country runs, and drills on the obstacle course, individual elements of physical training (pull-ups, squats, and jumping in place) are accomplished during the entire day: prior to eating, when moving to the site for lessons, and during the break between them.

The second stage (four weeks) consists of training and taking tests in general military disciplines including guard service, defense against weapons of mass destruction, military topography, and medical training.

Specialization begins on the third stage (four weeks). Along with the study of the principles of contemporary war, engineer improvement of positions, methods

* The former program for training recruits envisioned separate training of the servicemen: a course of basic military training (seven-eight weeks) was mastered in centers for the training of recruits, and for specialty training (eight weeks) --in centers (schools) of the combat arms and services or in training subunits of large units and units.

for mining the terrain, and night-vision instruments training in special subjects is accomplished. Thus, the mortar men master the materiel and rules for firing from the 81- and 106.7-mm mortars, and the operators of the TOW anti-tank complex--the basic procedures and methods for destroying armored targets at ranges up to 3,000 meters. The automatic riflemen study small arms and crew-served weapons and the actions of the soldier in combat. The skills in their conduct of close combat are worked out in a practical manner on an assault course more than 400 meters long and equipped with 18 different obstacles. Attacking in dismounted formation the servicemen should overcome them and, at the same time, reach an "enemy" weapon emplacement and "destroy" it.

During the drill which is conducted only by squad, the soldiers learn to jump across trenches and ditches with barbed wire, climb up an embankment, crawl beneath entanglements, cross obstacles on a suspension bridge and cableway, and "destroy" special targets using bayonet combat procedures. In the opinion of the center's instructors formerly little attention was devoted to this form of hand-to-hand combat, and the organization of such lessons on the assault course will further the development of such qualities as resoluteness, resourcefulness, mutual assistance, and the ability to master small arms in the servicemen.

The final stage of the training (two weeks) is allotted for consolidation of the knowledge which has been obtained, the taking of examinations, and the distribution of the recruits among the units.

"A typical feature of the OSUT program," notes one of the leaders of the center, Colonel L. Bennet, "is a reduction in the total time for basic training with a simultaneous rise in the level of instruction, especially in special disciplines." Since American specialists evaluated the advantages of the new program, since 1983 the training of the crews of the Bradley M2 infantry fighting vehicle, sections for the M901 self-propelled TOW antitank missile complex, and operators of the Dragon antitank missile complex was also begun in the center. According to a report in the Western press, each year it is intended to train about 40,000 servicemen. The Ground Forces command also plans to use the OSUT integrated program when training recruits of other arms and services, especially in combat specialties.

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FOREIGN MILITARY AFFAIRS

U.S. MILITARY AIRLIFT COMMAND DESCRIBED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 39-47

[Article by Col V. Kondrat'yev: "The Military Airlift Command of the U.S. Air Force"; passages rendered in all capital letters printed in boldface in source]

[Text] According to the views of foreign experts, military airlift aviation plays a most important role in supporting the combat operations of the ground forces, other air arms, and naval forces. The Pentagon considers it one of the important elements for the attainment of the strategic mobility of its war machine and the main means for the rapid lifting of interventionist forces to any region of the world. In addition, it assigns it the following missions: the dropping of airborne assaults, delivery of means of material and technical support (MTO) to assigned areas, evacuation of the sick and wounded, conduct of search and rescue and special operations, and supporting sabotage operations. Its basic forces and equipment have been brought together in a special Military Airlift Command (MAC) of the U.S. Air Force. In addition to the missions mentioned above, the command has been charged with meteorological support for all the country's armed services and the accomplishment of motion pictures and photographs of various exercises, flight tests, combat operations, and other important events in the American Armed Forces, primarily in the Air Force.

Presented below from data published in the foreign press is information on the organization, composition, reserve components, combat training, and prospects for the development of MAC, U.S. Air Force.

THE ORGANIZATION AND COMPOSITION OF MAC. Standing at the head of it is the commander (now he is General Ryan) who directs all the command's activity through his staff. On questions of administration, combat training, and MTO he is subordinate to the chief of staff of the Air Force, and on the operational use of MAC formations [ob'yedineniye], large units, units, and subunits--directly to the chairman of the Joint Chiefs of Staff (JCS). The organization of MAC is given in Figure 1. [not reproduced].

The Headquarters (located at Scott Air Force Base, Illinois) works out plans for the operational employment of subordinate formations, large units, units, and subunits, supervises combat training, organizes big transport aviation exercises, on the instructions of the commander conducts operations on the lifting of troops

and cargoes from the continental United States to overseas theaters of operations and within them, monitors the combat readiness of subordinate forces and their supplying with MTO means, and handles questions of the training and placement of personnel, the leasing of airplanes from civilian airlines, and so forth.

The 21st Air Force has been assigned a "zone of responsibility" which extends from the Mississippi River (United States) to the east to the meridian which passes through Calcutta (India). Within the limits of this zone, the force's personnel and equipment should accomplish its missions in peacetime as well as in time of war. The organizational structure of the 21st Air Force (AF) is shown in Figure 2 [not reproduced].

Separate air transport wings as well as those which are part of divisions each usually contain two or three (in some cases more or fewer) squadrons of tactical (C-130) and strategic (C-141 and C-5) military transport aircraft as well as an air base group (sometimes a wing) with the same number as the air wing to which it pertains. A squadron numbers 16-18 aircraft on the average. The air base groups as well as support wings and squadrons are assigned: airfield support, maintenance, the accomplishment of field repair of the aircraft, and the accomplishment of a number of other missions, in particular loading, unloading, MTO, and security. On this basis, their composition includes the corresponding subunits (squadrons, detachments, and groups).

A special place is occupied by the 1605th Support Wing (it is located at Lajes Field in the Azore Islands). It performs maintenance, minor repairs, and refuelling of military transport and other aircraft in transit which are flying from the continental United States to Western Europe, to the Near East, and return.

The 89th Special Airlift Wing is intended for the air transportation of the President, vice-president, congressmen, and other members of the country's highest leadership as well as highly-placed foreign guests. For this it contains two squadrons equipped with C-6A, C-9, C-121, C-135, C-137, and C-140 airplanes and a subunit of CH-3, HH-3, and UH-1H helicopters.

The 22d Air Force is responsible for air shipments and the accomplishment of other missions assigned to it in a zone which extends from the Mississippi River (United States) to the west to the meridian which passes through Calcutta (India). The organization of the 22d AF is shown in Figure 3 [not reproduced]. Along with the basic units, the force includes a number of smaller auxiliary subunits--support detachments and groups at overseas bases and some others.

The units and subunits of the 22d AF are similar in their composition and missions to be accomplished to the units and subunits of the 21st AF except for the 314th and 443d Air Wings. The latter, in addition to the accomplishment of normal functions, are engaged in the training of crews of the corresponding aircraft (tactical and strategic) in the interests of all of MAC.

The 23 Air Force was formed in 1983. In contrast to the 21st and 22d Air Forces, it is intended for the accomplishment of special missions: the organization and conduct of so-called special and search-and-rescue operations. Proceeding from

this, the special operations forces and equipment (spetsnaz) were transferred to it from tactical air as was the search and rescue service which formerly was subordinate directly to MAC Headquarters. The organization of the 23d AF is presented in Figure 4 [not reproduced].

The units and subunits which are part of the 23d AF are equipped with AC-130 gunships and the MC-130H aircraft as well as with the UH-1 and CH-3 helicopters. The AC-130 is an armed version of the C-130 transport aircraft. Installed on board it are a 105-mm howitzer, 40- and 20-mm rapid-firing cannon with a large supply of ammunition, and other weapons. It is intended for the fire support of reconnaissance-sabotage groups, combating insurgents, and so forth.

The MC-130H (also created on the base of the C-130) is a special sabotage airplane adapted for secret deep penetration of enemy territory and the dropping or evacuation of saboteurs. It is equipped with the most modern navigation and piloting systems, equipment to support flight at maximum low altitudes hugging the ground, special accessories for lifting people and cargoes from the ground without landing, and so forth.

The search and rescue service (in the foreign press it is frequently called the Aerospace Search and Rescue Service with its headquarters located at Scott Air Force Base, Illinois) was created for the conduct of operations to search for and rescue crews of various flight vehicles which have suffered disaster (spacecraft, airplanes, helicopters, and so forth) in peacetime as well as in time of war. In the latter case, it is also intended to conduct these operations on territory occupied by enemy troops.

Organizationally, the service includes: the 39th Search and Rescue Air Wing, the 41st Search, Rescue, and Weather Reconnaissance Wing, and separate squadrons, the detachments of which are based at more than 50 points in the world. They are equipped with HC-130 airplanes and HH-1, HH-3E, and HH-53 helicopters.

Judging from reports in the Western Press, altogether the 23d AF now numbers about 90 airplanes and up to 200 helicopters for various purposes.

The 375th Transport Medical Wing transports the sick and wounded within the limits of a theater of operations and between them. It has 23 C-9A and C airplanes and a large number of personnel who have been trained for the accomplishment of this mission. C-130, C-141, and C5-A aircraft from other MAC units and subunits are widely drawn upon for the accomplishment of such shipments.

The Meteorological Service conducts the collection, processing, and analysis of data on the condition of the weather and its forecasting in the interests of the Air Force and the country's other armed services. In addition to forecasting the weather in given regions of the world and on routes of aviation flights and hops, the service is responsible for the timely warning of interested headquarters and other military organizations concerning the possibility, location, and times for the emergence of dangerous natural phenomena (thunderstorms, typhoons, and so forth). Its ground posts as well as flying subunits which are engaged in the collection, processing, and transmission of weather data are located in more than 300 points in the world. They are equipped with the corresponding instruments,

equipment, and gear. The flight subunits number 14 WC-130E weather reconnaissance aircraft (created on the base of the C-130 transport aircraft). For the accomplishment of its assigned missions, the service makes wide use of the information obtained from weather satellites and from like organizations of the United States and other member countries of the aggressive imperialist NATO bloc.

The Cinema-Photographic Service is engaged in motion picture photography and taking photographs of the most important events of the activity primarily of the Air Force. The motion pictures, photo albums, and other materials created by it are used in Air Force institutions, units, and subunits when conducting scientific research work, to evaluate the results of combat actions and the effectiveness of various types of weapons, and in the training process when training personnel.

Based at many overseas intermediate and terminal air bases of the U.S. Air Force are MAC ground subunits which accomplish the servicing, unloading and loading, and minor repair of military transport and other American airplanes which arrive there.

Altogether, as the foreign press shows, the composition of MAC numbers 92,000 personnel and more than 1,000 airplanes and helicopters including: 73 C5-A heavy transports, the Galaxy, (they are organized in four squadrons), 272 C-141B Starlifter heavy transports (13) and about 260 medium C-130 Hercules transports (14).

MAC RESERVES include units and subunits of the military transport aviation of the Air Force Reserve Command, the Air National Guard, and civil aviation reserve components.

The Air Force Reserve Command, according to data in the Western press, can allocate to assist MAC 15 tactical transport squadrons (130 C-130 aircraft), 4 search and rescue squadrons (14 HC-130 airplanes, 8 HH-3E and 10 HH-1H and UH-1N helicopters) and 1 weather reconnaissance squadron (7 WC-130's).

In addition, this command contains 18 so-called attached squadrons (4--C-5A aircraft, 13--C-141, and 1--C-9A aircraft) in which they do not have their own aircraft and their flight personnel are attached to MAC transport squadrons where they also undergo a program of combat training. As the foreign press reports, the crews of these subunits have a high level of training and they often take part in exercises and in regular flights and hops on a level with the crews of the regular Air Force.

The Air National Guard consists of 19 tactical transport squadrons (they number about 170 C-130 aircraft of various modifications) and 2 search and rescue squadrons (8 HC-130 airplanes and 12 HH-3E helicopters) for the accomplishment of missions being accomplished by MAC. The level of training of these subunits' personnel, in the opinion of American military specialists, is approximately the same as in the regular Air Force. Their aircraft and crews participate in virtually all big exercises of the U.S. Air Force in which military-transport aviation is involved, accomplish flights connected with the shipment of military cargoes and people, and accomplish other missions.

The civil aviation reserve components. On the basis of existing legislation and on the basis of the Pentagon's requirements each year the U.S. Congress determines the MAC reserve from the country's civilian airlines quantitatively and qualitatively. Thus allotted to it for fiscal year 1983 were 323 airplanes of which 215 are passenger liners (Boeing 747, Boeing 707, L-1011 Tristar, DC-8, and DC-10) and 108 cargo airplanes (Boeing 747, Boeing 707, DC-8, and DC-10). They all have a large cargo capacity and flight range. Three categories of mobilization readiness have been established for these aircraft and their crews (number and times for their conversion to military status).

The basic performance characteristics of the military-transport and some of the civilian aircraft mentioned above are presented in the table.

The COMBAT TRAINING of MAC units and subunits is accomplished in the form of regular training flights, exercises, and maneuvers which are conducted, as a rule, jointly with other air arms and armed services. In the course of it the flight crews master the accomplishment of flights over various routes. Here they are being accomplished more and more often with aerial refuelling and with landing on intermediate or terminal airfields located on the territories of other countries. Ground servicing personnel drill in the rapid preparation of the aircraft for takeoff and the loading and unloading of big combat equipment and various cargoes, and the specialists of other flight support services--in the performance of their functional duties under various situations which, as a rule, during exercises are as close as possible to a combat situation.

As shown by the foreign press, in the process of the training of MAC units and subunits great attention is devoted to the accomplishment of missions in the assault landing of troops. Here, the parachute dropping of assault forces is worked out regularly along with the delivery of personnel, combat equipment, and MTO means to assigned landing areas by the landing method. In recent years, especially in working out the dropping of tactical airborne assaults, the dropping of combat equipment from the lowest possible altitudes using the "pull-out" method (see colored insert) [not reproduced] is being practiced more and more often.

In addition to daily work on the shipment of troops and cargoes as well as the accomplishment of other missions in accordance with the plans for the combat training of the armed forces, the U.S. military airlift is regularly involved in the Pentagon's various military adventures. In particular, it supported the combat operations of the American aggressors during the war in Southeast Asia, participated in other so-called local wars and military conflicts unleashed or supported by American imperialism, and so forth. MAC aircraft deliver combat equipment, weapons, ammunition, and MTO means to forces of American troops, allies in blocs, and various anti-popular puppet regimes scattered throughout the entire world.

In the autumn of 1983, in the unprecedented aggression of the United States against Grenada, American military-transport aviation played a leading role. Accomplishing about 100 flights, its airplanes landed 4,500 cutthroats from the 82d Airborne Division on the territory of Grenada and delivered about 1,000 tons of various cargoes to support combat operations against the small and virtually defenseless people of this tiny island state.

Performance Characteristics of Main Aircraft of MAC and its Reserves

Обозначение и наименование самолета (год поступления на вооружение) (1)	(2) Вес самолета т: максимальный взлетный (3)	(4) Количество типов двигателей: мощность одного двигателя (5)	(6) Полезная нагрузка: количество вооруженных солдат (7)	(8) Максимальная крейсерская скорость полета, км/ч (на высоте, м) практический потолок, м (9)	(10) Дальность полета, км с грузом, т (11)	(12) Размеры самолета, м: длина x высота размах крыла (13)
Военные самолеты (14)						
(15) С-5А «Гэлекси» (1968)	348,8 147,5	4 x ТРД (24) 18 000	345 120	870 (9000) 10 300	6000 100	75,5 x 19,9 67,9
(15) С-5В «Гэлекси» (1983)	363 более 150	4 x ТРД (24) 19500	345 120	875 (9000) 11 000	6000 100	75,5 x 19,9 67,9
(16) С-141В «Старлифтер» (1979)	156 66	4 x ТРД (24) 9525	154 42	910 (9000) 12 500	5000 42	51,3 x 12,0 48,7
(17) С-130Н «Геркулес» (1964)	79,4 33,0	4 x ТВД (25) 4910	92 20,4	600 (6100) 10 000	4200 20,4	29,8 x 11,7 40,4
С-137 (1958)	151,3 62,9	4 x ТРД (24) 8165	219 41,5	970 (7600) 11 800	6900 41,5	46,61 x 12,93 44,42
(18) С-135В «Стратолифтер» (1962)	125 46	4 x ТРД (24) 6200	126 39,5	850 (10600) 12 000	7400 25	41,0 x 11,7 39,9
(19) С-121G «Констелейшн» (1951)	65,8 34,1	4 x ПД (26) 2500	72 18,1	530 (7000) 8600	3360 18,1	35,4 x 7,5 37,5
(20) С-9А «Найтингейл» (1968)	49,0 26,9	2 x ТРД (24) 6575	40 5	910 (7600) .	2400 5	36,4 x 8,4 28,5
(21) С-140 «Джетстар» (1962)	19,0 .	4 x ТРД (24) 1500	10 1,33	816 (11300) 11 500	3400 1,33	18,4 x 6,2 16,6
Самолеты из состава гражданской авиации (22)						
(23) Боинг 747	372 179,6	4 x ТРД (24) 23 500	452 90,7-101	970 (9000) 13 700	10000 60	70,66 x 19,33 59,64
DC-10	267,6 108,4	3 x ТРД (24) 23 500	380 65	910 (9200) 12 000	6640 65	55,5 x 17,7 50,41
L-1011	211,4 112,7	3 x ТРД (24) 22 700	Более 260 40,6 (27)	970 (9000) 12 800	6670 40,6	54,17 x 16,87 47,34
DC-8	161 75,0	4 x ТРД (24) 8620	189 53,7	850 (10000) 12 000	7200 30	47,98 x 12,92 45,23
(23) Боинг 707	151 62,9	4 x ТРД (24) 8165	219 41,5	970 (7600) 11 800	6900 41,5	46,61 x 12,93 44,42

Key:

- Designation and name of aircraft (year of entry into inventory)
- Aircraft weight, tons: maximum takeoff
- Empty
- Number x type of engines¹
- Power of one engine
- Payload: number of armed soldiers
- Cargo, tons
- Maximum cruising speed, km/h (at altitude, meters)
- Service ceiling, meters
- Flight range, km
- With cargo, tons
- Dimensions of aircraft, meters: length x height
- Wingspan
- Military aircraft
- Galaxy
- Starlifter
- Hercules
- Stratolifter

(Continuation of table)

19. Constellation	23. Boeing
20. Nightingale	24. TRD
21. Jetstar	25. TVD
22. Civil aviation aircraft ³	26. PD
	27. More than

¹ Types of engines are designated in the following manner: TRD--turbojet, TVD--turboprop, PD--piston. Their power is presented respectively in the following units: kg of thrust, shaft horsepower, hp.

² To preserve the service life of the aircraft, the weight of its maximum load has been reduced to 93 tons.

³ There are many versions of the indicated aircraft which differ from one another in several characteristics. The table presents information on only one of the versions of each type of cargo aircraft, and the number of personnel transported by them is given for one of its passenger versions.

At the end of the same year, in accordance with the plans of the Reagan administration MAC aircraft began the delivery of components of new first strike weapons to Western Europe, and namely: land-based cruise missiles to Great Britain and Italy and Pershing-2 medium range ballistic missiles to the FRG.

The intensity of MAC's use for the accomplishment of all the missions presented above is shown by the fact that each year its aircraft transport hundreds of thousands of tons of various cargoes and a large number of servicemen (for example, during 1981 440,000 tons of cargo and more than 2.2 million people).

THE DEVELOPMENT OF MAC. In speeding up the arms race and preparing for war, in the first instance against the USSR and the other countries of the socialist commonwealth, the Pentagon is devoting great attention to the build-up of the capabilities of the Command primarily in the accomplishment of its standing strategic mission--the shipment of personnel, equipment, and MTO means to overseas theaters of operations. Here, there is no concealment of the fact that it is planned to accomplish such shipments first of all during the direct planning and conduct of a war in Europe and other regions declared by the American administration as "vitally important for the United States."

The Western press notes that the Department of Defense and the U.S. Air Force command have worked out and are conducting the following basic measures for the development of military transport aviation: improvement of the organization of units, large units, formations, and command and control elements; the development of the fleet of aircraft; the wider employment of aerial refuelling; raising the level of training of the personnel, and a number of others.

As the foreign press reports, organizational measures are directed toward the more effective employment of the aircraft fleet and ensuring greater possibilities for the maneuver of forces and equipment of military transport aviation in various situations. For this purpose, in the middle of the 1970's 14 squadrons equipped with

C-130 medium military transport aircraft were transferred and placed under orders of MAC from the Tactical Air Command, a civil aviation reserve was created and plans for its mobilization readiness have been worked out, the structure of the command is constantly being improved, and work is being conducted on the further automation of the control of its forces at various levels.

In studying the experience of air shipments, the U.S. Air Force command came to the conclusion that the MAC aircraft fleet is not being used with sufficient efficiency due to a shortage of flight crews. American specialists believe that if there will be four crews per aircraft in the MAC air units and subunits (at present from 1.5 to 3), the command's capabilities will increase by 25-30 percent.

As follows from reports in the Western press, the greatest portion of the financial resources expended on the development of American military transport aviation is expended in the development of the aircraft fleet. Work is being conducted in two basic directions--the modernization of aircraft which are in the inventory and the creation of new ones.

Pertaining to the first of them, the Western press noted that in the period from 1979 through 1982, to increase the capabilities of aviation in transporting troops and cargoes all C-141A aircraft in the U.S. Air Force were modernized (after which they received the designation C-141B). The C-5A is now undergoing modernization.

The C-141A Starlifter was created and produced by the Lockheed Corporation. Its improvement consisted of the following: the fuselage was lengthened by 7.11 meters (by including additional sections 4.06 meters long in front of the wing and 3.05 meters behind it), the coupling of the wing with the fuselage was improved, and a system for aerial refuelling and improved piloting-navigation and other equipment were installed.

As a result of this work, the C-141B became approximately 4.6 tons heavier than the C-141A; however, its flight characteristics were not worsened and its cruising speed and service ceiling even increased. As was stressed in the foreign press, although the maximum weight of a load transported by the C-141B aircraft (42 tons) did not change, its transport capabilities increased in comparison with the C-141A by 35-40 percent through an increase in the floor area of the cargo compartment by 22.3 square meters and in its volume by 61.5 cubic meters. This permits shipping bigger loads and in large quantity (within the limits of permissible cargo-carrying capacity). In particular, it is reported that the C-141B can transport up to 13 standard 463L cargo pallets (their permissible total payload 27 tons), and the C-141A--only nine such pallets (about 20 tons).

The C-5A Galaxy was also created and produced by the Lockheed Corporation. Substantial shortcomings were disclosed in it in the course of operation. American specialists consider the basic one to be the wing's low fatigue strength which led to a reduction of almost half in the calculated accrued flying time service life (30,000 hours), a more than five-fold reduction in the number of landings, and to restrictions in the maximum weight of cargoes being shipped from 120 to 93 tons.

To eliminate these shortcomings, NIOKR [scientific research and experimental design work] was conducted for modernization of the C-5A. In particular, a new wing was developed which, according to the statement of American specialists, permitted increasing the cargo-carrying capacity of the aircraft by nine tons and, in individual cases (with a reduction in the operational G-force from 2.5 to 2) it may be brought to the design capacity (120 tons)). In addition, the fuel reserve was increased by six tons, some of the units and assemblies were improved to satisfy the requirements for accrued service life and number of landings, and new navigation-piloting equipment, automatic devices for the control of some systems, and more powerful TF39-GE-1C engines (maximum static thrust of each one 19,500 kilograms) were installed.

As a result of the performance of this work, the aircraft received the designation of C-5B. Its maximum takeoff weight increased to 363 tons with the preservation of flight qualities primarily through an increase in thrust-to-weight ratio and improvement in the wing's aerodynamic characteristics.

The first C-5B aircraft reached the U.S. Air Force in February 1983, and it is planned to modernize the last of the C-5A's in the inventory in 1987. In addition, the Reagan administration has adopted the decision to build 50 new C-5B aircraft in the period 1985-1989.

Judging from reports in the foreign press, other aircraft with which MAC units and subunits are equipped are also being improved regularly. Along with this, several American aircraft-building companies are working on plans for new military transport aircraft under the CX program. In particular, the McDonnell-Douglas Corporation is developing a promising aircraft for this purpose, the C-17. To accelerate progress in its development, the U.S. Congress allocated an additional 60 million dollars in 1983.

In accordance with Air Force requirements, the new airplane should have a greater payload and flight range as well as the capability to accomplish landings on short runways. The latter, according to the concept of American military experts, will permit transporting personnel, equipment, and other cargoes directly to the area of combat operations of friendly troops, thereby excluding the necessity for the landing of heavy strategic aircraft at intermediate bases for reloading onto tactical airplanes or land types of transportation.

In addition, the U.S. Air Force sometimes acquires airplanes from civilian airlines and equips its subunits with them. For example, at the end of 1983, several wide-fuselage Boeing 747 airliners which had been in operation were purchased and were used to equip one of the Air National Guard squadrons. Other measures directed toward strengthening MAC are also being conducted.

American experts consider the wide use of aerial refuelling to be one of the important and effective ways to increase the capabilities of all the air arms, including military transportation. It permits a significant increase in the flight range of the airplanes or in the weight of their payload.

In the U.S. Air Force, all tanker aircraft are concentrated in the Strategic Air Command and its reserve components. Altogether, according to data published in the Western press, on 1 January 1984 652 KC-135 Stratotanker tankers and 16

latest KC-10A Extender tanker-transport were counted in its inventory. However, the Pentagon believes that this number of tankers is insufficient for complete satisfaction of the ever increasing requirements of military aviation. Therefore, the decision has been made and resources have been allocated for the building of another 44 KC-10A's, for the improvement of the KC-135's, and for the implementation of a number of other measures.

On the assignment of the country's Defense Department or on their own initiative, some big American firms are working on the creation of new airplanes for this purpose. In particular, the Boeing Corporation is already conducting flight tests of a new transport tanker, the KC-707--a reequipped Boeing 707 civilian airliner. It is counting on receiving an order for the delivery of 100-150 such aircraft from the Air Force in the near future.

Considering the advantages of aerial refuelling, MAC is devoting ever more attention to the expansion of its employment in its air units and subunits. For this purpose, as was mentioned above, the C-141 which did not have a refuelling system was equipped with it during modernization. The Command's aircraft are accomplishing more and more often training as well as practical long-distance flights with one, two, and even three aerial refuellings.

Thus, in the summer of 1981 a C-141B aircraft having more than 30 tons of cargo on board accomplished a non-stop flight from McGuire Air Force Base (New Jersey) to Saudi Arabia. In 13.5 hours it covered a distance of about 12,000 kilometers. During the flight, the crew was refuelled three times by KC-135 aircraft: the first near the Atlantic coast of Canada, the second above the territory of France, and the third while flying above the island of Sicily (Italy). In the fall of the same year a C-5A, the largest American military transport, transported seven half-disassembled F-5 tactical aircraft from Dover Air Force Base (Delaware) to Amman (Jordan). The flight was accomplished without landing at intermediate airfields with three refuellings from KC-10 aircraft.

As regards questions of raising the level of the personnel's training, the foreign press notes that various aviation simulators are being employed more and more widely along with an increase in the intensity of flights, various exercises, and other measures. According to the views of American specialists, the use of the simulators when training flight crews as well as ground servicing personnel noticeably furthers an increase in their skill, an economy in fuel and aircraft service life, and a reduction in the flight accident rate.*

Everything presented above confirms once again that in the plans for American imperialism's military preparations, along with a build-up in the strike power of the Air Force great attention is also being devoted to military-transport aviation as the basic means for the rapid lifting of troops and equipment to overseas theaters of operation. An important role is being allotted to this

* For greater detail on this question see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 12, 1983, pp 54-58.--Editors.

type of aviation in the aggressive aspirations of American imperialism, the point of which is directed, first of all, against the countries of the socialist commonwealth and other independent states and peoples which are objectionable to the imperialists of the United States.

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FOREIGN MILITARY AFFAIRS

U.S. ADVANCED FIGHTER AIRCRAFT DISCUSSED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 48-49

[Article by Engr-Col P. Ivanov: "Tests of American Experimental Fighter"]

[Text] In the United States at present the Air Force and Naval commands together with NASA are implementing the AFTI (Advanced Fighter Technology Integration) program which envisages the development and testing of technical innovations which may be used when creating the next generation of tactical fighters. The Air Force Flight Dynamics Laboratory is engaged in the accomplishment of this program. In accordance with it, in July 1982 flight tests of the AFTI/F-16 experimental fighter developed by the General Dynamics Corporation on the base of the F-16 series Fighting Falcon fighter were begun at Edwards Air Force Base, California. Its basic distinction consists of the forward control surfaces which are located beneath the engine air intake and are intended for direct control of lateral force and lift (see Figure 1).

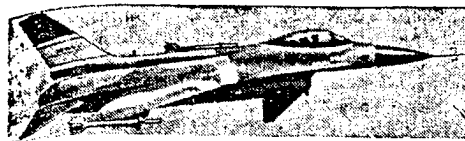


Fig. 1. American AFTI/F-16 experimental fighter.

It is noted in the foreign press that a special feature of the new airplane is its equipping with a digital flight control system which permits executing a maneuver in space with six independent degrees of freedom. The latter are provided by the joint use of the forward control surfaces and regular controls which create equilibrium aerodynamic forces and moments. In particular, the forward control surfaces, flaperons, and horizontal stabilizer are employed for the direct control of lift. Here the airplane can move up and down without changing the pitch angle, can change the pitch angle without changing the angle of attack, and can change the angle of attack with the constant direction of the velocity vector. Direct control of the lateral force is accomplished using the same forward surfaces, rudder, and ailerons. This gives the fighter the capability to move to the right or to the left without changing the yaw angle, to turn in a

horizontal plane without a change in the angles of pitch and bank and to change the angle of yaw with the constant direction of the velocity vector.

In the opinion of American experts, unexpected movements of the aircraft, with which its angular position does not permit the enemy to predict the direction of further maneuver, substantially raise the combat capabilities of the fighter and reduce the probability of its destruction by active air defense means. It is believed, in particular, that when conducting maneuver air battle the effectiveness of the fighter will be approximately doubled and the probability of its being destroyed will be reduced almost 10-fold.

The aircraft is now undergoing the phase of evaluation flight tests intended for 125 flights. For this purpose, a new flight control system has been installed on it which operates on the basis of three BDX-930 asynchronously operating digital computers of the Bendix Corporation as have two multifunctional alphanumeric information indicators created using cathode-ray tubes with a diameter of 10 centimeters and a wide-angle electron-optical indicator with the display of the situation against the background of the windscreen (the angle of its field of view is 15 x 20 degrees while the indicator of the series F-16 fighter is only 9 x 13 degrees). The radar and weapons control system remained unchanged.

It was intended that this phase of the flight tests, which envisages basically an evaluation of the digital flight control system, would be completed by the middle of 1983. Then it was planned to return the AFTI/F-16 aircraft to the General Dynamics Corporation where the integration of the flight control system and the automated weapons control system should be performed. It is planned to include in the latter: a suspended container system for the detection and tracking of ground targets which consists of a front-looking infrared station and a laser range-finder target indicator; the pilot's helmet-mounted sight; a weapons control computer; a radar altimeter which permits continuous measurement of flight altitude (down to 60 meters) even when the aircraft turns around the longitudinal axis 360 degrees; and standardized electronic equipment.

After this, it is envisaged that the fighter will again be flown out to Edwards Air Force Base for the conduct of the second phase of flight tests intended for 150 flights. In the course of this phase, it is intended to evaluate the operation of the entire complex of navigation equipment under conditions for the conduct of aerial combat and when launching strikes against ground targets, including low-altitude bombing and the firing of guided missiles. This complex, as reported in the foreign press, is intended for the detection, lock-on, and tracking of ground targets under daytime and nighttime conditions and for the automatic guidance of the aircraft to the target with the subsequent employment of weapons which, it is believed, can be dropped with any attitude of the aircraft when the task of aiming has been accomplished (Figure 2).

In the future, it is planned to install on the AFTI/F-16 fighter and test a control system with the employment of voice commands (a store of 50 words). Using it, it is felt, the pilot will be able to give voice commands for selection of the type of weapon and the method of its employment and control radio-communication, navigation, and some other on-board equipment. American specialists believe that tests of the AFTI/F-16 experimental aircraft will permit providing a realistic evaluation of new technical decisions for their further realization in future combat aircraft.

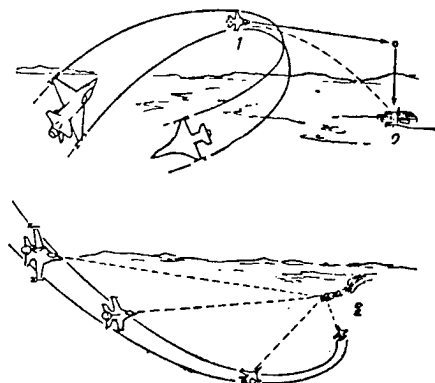


Fig. 2. Methods of combat employment of weapons from an aircraft equipped with a system for direct control of lateral force and lift (top--bombing, bottom--cannon firing from low-level flight): 1- dropping a bomb, 2- target.

Judging from reports in the Western press, similar studies on the use of principles of direct control of lateral force and lift are being conducted in the FRG, Great Britain, and Japan. In particular, in the FRG the MBB firm tested a remote electrical system for flight control with triple redundancy and forward control surfaces located on the upper part of the fuselage behind the pilot's cockpit. The main portion of this aircraft's tests (117 flights out of 120 planned) was completed at the end of 1981.

The British firm of British Aerospace is conducting studies on the Jaguar fighter-bomber. Flight tests of this aircraft equipped with only a remote electrical flight control system were begun in September 1981. In the future, it is envisaged that forward control surfaces will be installed on it and the test program will be expanded.

In Japan, since April 1982 the Mitsubishi Company has created a research airplane on the base of the T-2 combat training fighter. Modernization consists of equipping it with a remote electrical control system and forward control surfaces of a graphite-epoxy compound material placed on the the engine air intakes. It was planned to start flight tests of this aircraft in August 1983. In the course of them, it was planned to analyze the behavior of the flight vehicle with reduced positive and negative static stability and the possibility of controlling the G-forces as well as to evaluate the effectiveness of the system for the direct control of lateral forces and lift.

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FOREIGN MILITARY AFFAIRS

U.S. AIR-TO-AIR MISSILE DESCRIBED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 49-52

[Article by Engr-Col V. Dëmin: "A New Air-to-Air Guided Missile"]

[Text] A component part of the course for the attainment of military superiority over the Soviet Union being conducted by the present military-political leadership of the United States is a sharp rise in the quality and combat effectiveness of conventional types of weapons including air weapons intended for the destruction of aerial targets.

Such weapons include an air-to-air medium-range guided missile (GM), the AIM-120A, which initially had the designation AMRAAM (Advanced Medium-Range Air-to Air Missile), and has been under development since the end of 1979. It is intended to use these missiles in the second half of the 1980's to replace the Sparrow GM of a similar class which is in the inventory of the tactical aviation of the U.S. Air Force, naval aviation, and the U.S. Marines, including the F-14, F-15, F-16, and F-18. In addition, as is stressed in the foreign press, it is envisaged that the AIM-120A will become the standard missile for the aviation of all countries which are members of the imperialist NATO bloc.

In the opinion of American military experts, the Sparrow family of guided missiles possesses a number of shortcomings which cause their unsuitability for the conduct of combat operations in the second half of the 1980's and beginning of the 1990's. In evaluating the results of the employment of these missiles by U.S. aviation which took an active part in the aggressive war in Southeast Asia, they also noted their shortcomings, such as too great a minimum range for launching, a significant time gap from the moment of lock-on on the target by the on-board radar of the carrier aircraft to the missile launching, and low effectiveness when firing at highly maneuverable targets. It is believed that as a result of this during the period of 1965-1969 the number of aerial targets destroyed using the Sparrow missiles was no more than 10 percent of the total number of GM launchings.

These omissions were partially eliminated in new modifications created in the United States after 1969 (AIM-7E-2, AIM-7F, and AIM-7M). However, as noted by the foreign press the main shortcoming--the use of a semi-active guidance radar system--could not be eliminated. It is presumed that such a system substantially

limits the maneuvering of the carrier aircraft, requires continuous illumination of the target (for 20-25 seconds when it is outside the limits of visual visibility and 10-20 seconds within it) right up until the guided missile hits it, is extremely vulnerable to contemporary means of electronic jamming, and in principle excludes the realization of one of the main requirements for a contemporary guided weapon--onboard guidance after launch. This shortcoming is inherent in missiles of a similar class and purpose which have been taken into the inventory in other NATO countries in recent years: the Skyflash in Great Britain, the R539 Super Matra in France, and the Aspid-1A in Italy.

Therefore, NATO specialists included in the required performance characteristics of future air-to-air guided missiles, including the AIM-120A, in particular the ensuring of autonomy of guidance, increasing the effectiveness in combating high-altitude, energetically maneuvering targets as well as low-flying targets, substantially reducing the launch weight (approximately by half in comparison with guided missiles of the Sparrow family), and the capability for employment under conditions of the intensive conduct of electronic warfare. As is stressed in the Western press, the satisfaction of such requirements became possible thanks to contemporary achievements in the theory of flight vehicle control, electronics and computer technology, in power plants, and in combat equipment.

Initially, the creation of the AIM-120A missile was conducted on a competitive basis by two American companies, and after the conduct of demonstration tests and test launchings in December 1981 the Hughes Aircraft Corporation was selected as the prime contractor with whom a contract was signed for the sum of 421.2 million dollars. The contract envisioned the full-scale development and manufacture of pre-series prototypes and a batch for installation as well as the conduct of various types of tests which should be concluded by February 1986.

The AIM-120A missile is made in accordance with a regular aerodynamic scheme and consists of three compartments: nose section, warhead compartment (BCh), and tail compartment (Figure 1). It has a crossed wing with a small area which ensures rather good maneuverability at low flight speeds and crossed rudders in the tail section. The body of the guided missile is made of steel with gray coloring which withstands considerable kinetic heating. The foreign press presents the following basic characteristics of a test prototype of the missile: launch weight 148.6 kilograms, firing range 5-100 kilometers, proper speed of flight $M=4$, length 357 centimeters, diameter of body 17.8 centimeters, wingspan 52.6 centimeters, and span of rudders 62.7 centimeters.

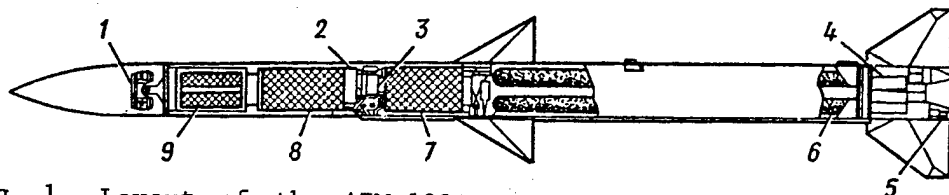


Fig. 1. Layout of the AIM-120A missile: 1- antenna; 2- inertial unit; 3- radar fuze; 4- rudder drives; 5- receiving antenna of command communication line; 6- motor; 7- warhead; 8- electronic equipment unit; 9- transmitter and electric power batteries.

Concentrated in the nose section is the main portion of the equipment for onboard guidance which is accomplished using a combined system--command-inertial on the

initial and middle phases of the flight trajectory and active radar on the terminal phase. The equipment of the command-inertial system includes an inertial platform without a universal joint and a receiver for the command communication line which is located in the nozzle unit of the guided missile's tail section. The weight of the platform in which miniature rate gyroscopes are employed is less than 1.4 kilograms. A highly-productive microcomputer which operates with a clock frequency of 30 MHz is common to the command-inertial and radar systems. It performs all functions of control, command communication, processing the signals of the radar equipment and fuzes, and built-in monitoring when checking the fitness for work of the main assemblies and equipment blocks. The introduction of such a microcomputer, American specialists believe, permitted increasing substantially the number of parameters used to calculate the most optimum guidance trajectory depending on the relative positions of the missile and the target at the point of impact and their flight velocities and directions. For example, on the basis of measured range and line of sight angle to the target as well as the rates of their change the microcomputer calculates the target's acceleration and, with known proper acceleration obtained using the inertial platform, it calculates its possible maneuvers. This computer can select that guidance trajectory with which the missile will overtake the target at the aspect angle which provides the greatest effect for destruction by the warhead. The receiver of the command communication line is used in case of the necessity to adjust the flight trajectory of the guided missile on the middle phase.

The active radar equipment which completely ensures onboard guidance of the missile after reliable target lock-on includes an antenna with high-frequency receiver and transmitter stages made using semiconductor components (it operates in the three-centimeter waveband with high pulse-repetition frequency when intercepting high-altitude targets at great ranges and with low frequency when destroying low-flying targets). It is noted in the foreign press that in experimental models of the guided missile the semiconductor transmitter did not provide sufficient operating range for the radar equipment, in connection with which a transmitter with the output stage using miniature travelling-wave tubes is being developed in parallel. The antenna of the radar equipment is located beneath a radio-transparent cowling (length 530 millimeters, diameter at the base 178 millimeters) made of ceramic reinforced with glass fiber.

Located in the warhead compartment are the warhead itself, a proximity radar fuze, and elements of the safety-and-actuating mechanism and pyrotechnics circuit. Selected for the missile is a fragmentation warhead whose weight is within limits of 11.5-23 kilograms, that is, considerably lower than in the Sparrow guided missile family where it is 39 kilograms. It is believed that such a reduction in weight was achieved thanks to ensuring the guidance of the guided missile along the optimum trajectory which provides a smaller miss distance and the use of a warhead with so-called directional action in which the scattering of ready-made fragments is accomplished in a narrow circular or limited sector. In this regard, the latter is possible only when the missile flies up to the target at a strictly determined aspect angle. In addition, the beginning of tests of a warhead which creates charges on the principle of an impact core was reported. With the direct hit of the target by the guided missile, a contact fuze is triggered.

The power plant is a two-mode solid-fuel rocket motor with a high specific impulse which operates on a low-smoke fuel without aluminum oxide with a weight of 45 kilograms. It is planned to install a compact ramjet motor being developed for future air-to-air guided missiles on the AIM-120A missile in the future, too.

The typical guidance trajectory of a guided missile is divided into three phases: command-inertial, onboard-inertial, and active radar (Figure 2). Target detection is accomplished using the onboard radar system for weapons control of the carrier aircraft. For example, on the F-18 Hornet fighter the AN/APG-65 radar can distinguish the 10 most important targets from such characteristics as range and rate of closing and track them continuously during scanning (eight of them are displayed on a scope in the aircraft cockpit). After the pilot's selection of the target, its coordinates are automatically input into the missile's inertial platform and then right up to launch the coordinate system which is common for the guided missile and the carrier aircraft and in which all calculations necessary for intercept are accomplished is used. After the missile's launch, the present-position coordinates of the target are recorded only in the onboard equipment of the carrier aircraft and, in the case where it does not maneuver, the guidance of the guided missile is accomplished using the inertial system and then the active radar guidance begins to operate.

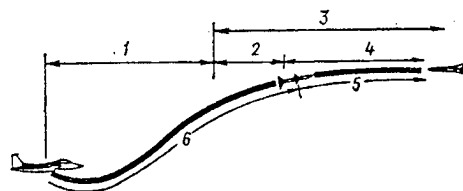


Fig. 2. Typical guidance trajectory of AIM-120A missile:
1- command-inertial guidance phase; 2- inertial phase;
3- onboard guidance phase; 4- terminal phase of trajectory; 6- middle phase of trajectory.

When the target executes maneuvers the correction of its coordinates which have been introduced into the missile's inertial equipment prior to launch is accomplished. For this, the corresponding correction commands are transmitted through the side lobes of the carrier aircraft's radar antenna, in which regard with the scanning periodicity of the antenna radiation pattern. These commands are received on board the guided missile by the receiver of the command communication line. Such command-inertial guidance is possible simultaneously for eight AIM-120A guided missiles with their launching at different targets. Here the value of time of flight remaining for each missile to the moment of switch-on of its active radar equipment is displayed on the aircraft scope, which permits the pilot to stop in time the transmission of commands for correction to the guided missile which has changed to the homing mode. Such a halt in the transmission of correction commands can also be accomplished in the case where the target stops maneuvering, when the missile is capable of being guided using its own inertial equipment up to the moment of changing over to homing.

It is noted in the foreign press that the guidance methods presented above are employed only in the absence of intentional jamming. If the target accomplishes

active jamming, the onboard equipment of the missile can be switched to the mode of guidance on the jamming source repeatedly on the middle and terminal phases of the flight trajectory. The active radar homing mode is used in close aerial combat with visual visibility of the target.

The AIM-120A can be suspended on two types of launchers: with guide rails (Figure 3) and with forced separation using pyrotechnic cartridges. The former are designed in such a way that the Sidewinder missiles can also be placed on them. The construction of the latter type consists of somewhat modified existing LAU-17 and LAU-92 launchers with which the F-14, F-15, and F-18 aircraft are equipped. They are intended for the suspension of the Sparrow as well as the AIM-120A guided missiles. The devices of both types permit suspending seven guided missiles on the F-14 aircraft, six on the F-15, F-16, F-18, and F.2 Tornado, and four on the F-4F Phantom.

As was reported in the foreign press, in the course of the missile's development in 1981-1982 six launchings were conducted from aircraft of various types under various conditions. Thus, the first launch was accomplished in August 1981 from an F-16 fighter and a direct hit was accomplished on a QF-102 controlled aerial target. Here the mating of the guided missile with the aircraft's weapon control system and the operation of the active radar homing equipment were checked. The second launch (from an F-15 in November 1981) was also concluded with the destruction of a QF-102 target, the attack of which was accomplished from the direction of the rear hemisphere with a flight altitude of the carrier aircraft of 1,800 meters and a speed of $M=0.75$ (the target was at an altitude of 300 meters and had a flight speed of $M=0.7$). The launch of the guided missile was ensured using the F-15 onboard radar. In this case, the operation of the internal guidance equipment on the middle phase of the trajectory and the active radar homing equipment under conditions where interference arose due to reflections from the Earth's surface were evaluated.

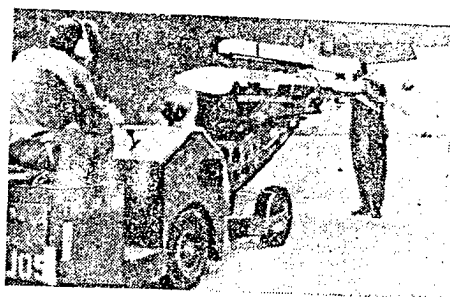


Fig. 3. Suspension of the AIM-120A Guided Missile on a Launcher with Guide Rails.

In the sixth launch of a test model of the guided missile from an F-15 fighter at the end of 1982, the ability to intercept a low-flying target (QF-102 target) which uses onboard means for radioelectronic warfare was demonstrated. It was conducted at an altitude of 4,800 meters and a range of 20 kilometers from the direction of the forward hemisphere of the target which flew at an altitude of 120 meters. Initially, the missile was guided by the command-inertial method, and then the active radar equipment locked on the target and ensured homing with an accuracy within the limits of the calculated radius of destruction of the missile's warhead.

At the beginning of 1984, it is envisaged that test launches will be renewed, for the accomplishment of which 87 missiles will be made. It is planned to accomplish 40 launchings from the F-16 aircraft and the remainder from the F-18, F-15, and F-14. In addition, in 1984 it is intended to produce a pre-series batch of missiles (204 missiles) and a year later--a batch for installation (720). The total requirements for the AIM-120A guided missile is estimated at 20,000 units, of which 13,000 will go to the U.S. Air Force and 7,000 to the U.S. Navy.

Judging from reports in the Western press, the period of service of the new guided missiles will be at least 25 years, during which it is planned to conduct several updates. Thus, it is expected that in approximately 1990 a variation, the AIM-120B, will be created in which passive homing equipment will be introduced for guidance on the terminal phase of the trajectory in addition to active radar equipment. In the middle of the 1990's, it is planned to develop a modification, the AIM-120C, which will be distinguished by improved characteristics in speed, maneuverability, and range of target intercept. Possibilities of creating antiradar and antiaircraft versions of the missile are also being studied.

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FOREIGN MILITARY AFFAIRS

WEST GERMAN 'MINE WARFARE' IN BALTIC DISCUSSED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 53-56

[Article by Capt 1st Rank (Res) A. Mel'nik: "The FRG Navy in 'Mine Warfare' in the Baltic Sea"; passages rendered in all capital letters printed in boldface in source]

[Text] In the plans for speeding up the militaristic preparations of the North Atlantic bloc, an important place is allotted to the Baltic Sea which is located in a strategically important region of the European continent and is a connecting link between the Northern European and Central European theaters of operation. The NATO military-political leadership believes that under contemporary conditions the success of combat operations in Europe will depend to a great extent on retaining control over the western part of the Baltic Sea and its channel zone. It allots a special role in the accomplishment of this mission to the FRG Navy which, as is stressed in the foreign press, is also called upon to combat enemy naval forces, disrupt his sea lines of communication, conduct amphibious operations, support the ground forces, defend its own communication routes, and accomplish the anti-landing defense of the coast.

NATO military specialists declare that the specific natural conditions of the Baltic Sea substantially restrict the possibilities for employing big surface ships but permit small submarines, missile (see colored insert) [not reproduced] and torpedo boats, and naval aviation to operate actively and the wide employment of mines. The latter are considered as one of the most effective, reliable, and relatively cheap means of armed combat at sea. They can be placed out quickly and secretly on the main sea lines of communication, in the water areas of VMB [naval bases] and ports, and in the depth of the enemy defense, ahead of time as well as in the course of combat operations. Mines can inflict considerable damage on enemy naval forces, create a constant threat to him, and exert a strong moral-psychological influence on the personnel.

"Mine warfare" in the Baltic Sea, as noted by the West German press, is a complex of measures which are directed toward the employment of mine and anti-mine weapons to destroy and hinder operations of the enemy fleet and for the defense of friendly naval forces and the creation of favorable conditions for their employment. It will be conducted in the form of special operations and systematic combat operations for mine laying and the anti-mine defense of friendly regions

with the involvement of all naval forces and naval aviation. Here it is stressed that the main burden of the missions being accomplished in the course of "mine warfare," and first of all, of those which pertain to anti-mine defense, lays on the fleet's minesweeping forces which, according to data in the "Jane's" reference book, number 59 ships which are organizationally combined into a flotilla.

To attain maximum success in this war, the command of the FRG Navy plans to conduct it in close coordination with Danish naval forces.

It is planned to execute MINE LAYING in coastal waters and in the areas of enemy naval bases and ports, on probable routes for the deployment of his ships, and in the western part of the Baltic Sea and its channel zone. Not only will ships of the minesweeping forces be used to lay minefields (in the form of nests and lines of simple and complex configuration), but also destroyers, frigates, submarines, missile boats, landing ships, and naval aviation. The mine carriers A1437 "Sachsenwald" (Fig. 1) [not reproduced] and A1438 "Steigerwald" commissioned in 1969 are also being used as mine layers in the West German Navy. According to data in "Jane's" reference book, the carriers have the following combat characteristics: total displacement 3,380 tons; length 110.9 meters, beam 13.9 meters, draft 3.8 meters; two diesels with a total power of 6,200 hp permit developing a speed of 17 knots; cruising range at cruising speed is 3,500 miles; armament--two 40-mm twin-barrel gun mounts; mine capacity up to 1,048 mines. The crew is 62 men.

Judging from materials in the foreign press, the West German naval command envisages the laying of offensive as well as defensive (protective) minefields.

It is intended to lay offensive minefields, foreign specialists stress, with the start of a declaration of war in enemy territorial waters on the approaches to his naval bases and ports, on probable routes of ships' deployment, and in those areas where he retains superiority. The purpose of these layings is to neutralize his actions and hinder the deployment of enemy naval forces in areas of active combat operations.

Speed and maximum secrecy in laying such minefields will be attained through the use of the multipurpose Tornado aircraft and submarines as mine layers.

It is planned to lay defensive (protective) minefields in friendly territorial waters and in the zone of Baltic channels and areas in which the West German Navy retains superiority. They should prevent the breakthrough of enemy ships to the North Sea and cover their own coast and islands from strikes from the sea.

Defensive minefields which are set out to protect coastal areas, primarily areas for the possible landing of amphibious assaults, are called protective in the FRG. Their laying may be accomplished during the threat period or on the eve of armed conflict.

Considering the time factor and the comparatively small dimensions of the Baltic Sea, NATO specialists believe that maximum number of mine layers must be put into operation for the simultaneous initial laying of defensive minefields.

For the accomplishment of this mission and keeping in mind the shallowness of the coastal regions and channel zones, it is intended to involve harbor minesweepers and landing ships in mine laying along with mine layers. Considering that the greatest danger to the mine-laying ships in the period of mine laying is the threat from the air, the FRG naval command envisages covering them with land and ship air defense weapons and by aviation.

Foreign military specialists stress that the main requirement imposed on the minefield is its stability which is attained by the anti-sweeping properties of the mines (first of all, of the fuzes), the necessary guarding of the minefields, and the possibility for their immediate replenishment in case the enemy succeeds in weakening them as a result of anti-mine defense measures.

Judging from materials in the foreign press, the FRG Navy has a considerable number of mines (primarily American Mk 18, 25, 36, 50, and 52, and also the UMS and G1 of its own design) which differ in carriers (surface ship, submarine, airplane) as well as in methods of laying (anchored and bottom) and detonation (contact, influence, and remote-controlled). In the immediate future the new SA1 and SGM80 mines, the development of which is being conducted jointly with Denmark, are expected to arrive in the fleet.

A ramified system for storing mines at a comparatively insignificant distance from and, in individual cases, in the immediate proximity of the probable mining areas permits dispersing the minecraft and other mine-laying ships among the storage points, taking mines on board quickly, and laying them in a limited time.

Problems of taking mines on board ships, laying them in assigned areas, and coordination with escort ships are being worked out even in peacetime on numerous drills and exercises. In the course of them, the most fixed attention is paid to speed and secrecy of operations and to the correctness with which individual mines are placed in the minefields.

A component part of "mine warfare" at sea is ANTI-MINE DEFENSE (COMBAT). West German military specialists distinguish its following forms: offensive and defensive. They include in the former measures directed toward the frustration of enemy mine-layings by destroying his industrial enterprises which produce these weapons and the destruction of naval bases and warehouses as well as the mine layers themselves in the bases, on routes of deployment, and directly in the mining areas. Defensive anti-mine combat (PMB) is intended to support the combat activity of the fleet and shipping under conditions of the enemy's use of mines. This type of anti-mine combat in turn is subdivided into active and passive.

The FRG naval command includes in the concept of active defensive anti-mine combat the conduct of minesweeping operations to detect, determine the limits, and destroy minefields, the piloting of ships behind the sweeps, the search for and destruction of floating mines, and the lifting and disarming or destruction of anchored and bottom mines.

Sweeping is conducted with contact and influence sweeps (magnetic, electromagnetic, acoustic, and hydrodynamic). The Troika mine-sweeping system, which consists of a control ship and three radio-controlled sweep boats of the F1 type

(Figure 2) [not reproduced] is considered to be the most promising means. The control ships (there are six of them, converted in 1978-1982 from the coastal minesweepers of the Lindau type of construction of the end of the 1950's) have the following characteristics: standard displacement 370 tons, total displacement 465 tons; length 47.1 meters, beam 8.3 meters, draft 2.8 meters; power of power plant (two diesels) 4,000 hp, and maximum speed 16 knots; cruising range at this speed 850 miles; armament--40-mm gun mount, 193M sonar station, contact sweep, and system for remote control of sweep boats. The crew has 44 men, including 4 officers.

The sweep boats have a total displacement of 99 tons, a length of 26.9 meters, a beam of 4.6 meters, and a draft of 1.4 meters. The power of the diesel is 446 hp, maximum speed is 10 knots, and cruising range is 520 miles at a speed of 9 knots. The crew has three men (during sweeping operations they are onboard the control ship). The sweepboat, as the foreign press reports, is an acoustic sweep which includes three emitters: one towed and two built into the hull of the boat. At the same time, the hull itself serves as the core of a solenoid whose windings are located in the bow and stern and, thus, it is an electromagnetic sweep.

The Troika system, it is noted in the Western press, accomplishes the search and sweeping of anchored and bottom mines with contact and influence fuzes in a band of 300 meters and at depths of 6-35 meters with a sea force of up to 3. At this time, the control ship is located outside the sweep zone, at a safe distance, while because of their construction the sweep boats can withstand the extremely close explosions of mines without substantial damage.

Mine hunters (12 units) are considered a contemporary means for the search and destruction of mines in the West German Navy. They were converted from Lindau-type coastal minesweepers in 1969-1979. Their total displacement is 463 tons and they have a crew of 43 men, including 5 officers. They are armed with a 40-mm gun mount and, of special equipment, they have on board a 193M sonar station and two PAP-104 self-propelled remote-controlled underwater apparatuses. In connection with the fact that the period of service of these ships has already reached 25 years, it is planned to replace them with new mine hunters of Plan 332. Their construction should be begun in the second half of the 1980's.

From evidence in the foreign press, the search and destruction of mines using mine hunters is an effective method for combating mines, first of all, influence mines. It increases the safety of mine-sweeping ships significantly since the necessity to pass directly above the mines disappears. In addition, in this case combined actuating devices, ship counting devices, and other additional devices which increase the protection of mines lose their strong aspects since a mine discovered by the ship's sonar station is destroyed by the PAP-104 apparatus.

In the system of anti-mine defense diver-miners who are crew members of mine hunters (six men on each) and members of a mine-disposal company (about 100) are used rather widely in anti-mine defense in the fleet. They are called upon to conduct the search and destruction of mines independently as well as jointly with ships of the mine-sweeping forces and to disarm, evacuate, and destroy

unexploded ammunition and other explosive objects in coastal waters and on land. In case it is necessary to obtain reliable data on the enemy's mines, they may be assigned missions to disarm and raise mines.

As formerly, traditional minesweepers retain an important place in combating the mine danger. According to data in the "Jane's" reference book, the FRG Navy has 39 harbor minesweepers (21 of the Schütze type, 10 of the Frauenlob type, and 8 of the Ariadne type) constructed in the 1960's. Their total displacement is 246-305 tons, length 38-47.4 meters, speed up to 15 knots, armament--40-mm gun mount on each, and sweeps of various types which can bring mines on board.

The command of the West German Navy believes that the minesweepers indicated above are already obsolete and do not meet the requirements imposed on them. In this connection, a minesweeper of a new Plan 343 is being developed to replace them (with a displacement of 400 tons). It is intended to begin the construction of these ships in the second half of the 1980's.

As regards passive anti-mine combat by the FRG Navy, as is noted in the foreign press it presumes the clear-cut organization of observation, by on-shore and ship-borne means, of enemy naval forces which are accomplishing mine-laying, the determination of safe routes and areas for the sailing of friendly ships and vessels, a reduction in their magnetic field and noise, and the generation of recommendations for the use of optimum modes for moving in mine-dangerous areas.

Such, in general features, are the views of the West German Naval Command on the employment of mines and combating them in a future war in the Baltic Sea.

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FOREIGN MILITARY AFFAIRS

WEATHER SUPPORT FOR U.S. NAVAL FORCES DESCRIBED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 57-59

[Article by Engr-Maj A. Dobrotvorskiy, candidate of technical sciences, and E. Sanina: "Providing the U.S. Air Force with Aerospace Hydrometeorological Information"]

[Text] In its militaristic preparations, the command of the U.S. Navy allots an important role to hydrometeorological support of the fleet, the main purpose of which is ensuring the safety of sailing for ships and vessels and flights by naval aviation and greater effectiveness in the use of weapons and detection, navigation, and communication equipment.

Judging from reports in the foreign press, the collection of hydrometeorological information is accomplished by naval ships and vessels, the Coast Guard, the Merchant Marine, weather reconnaissance airplanes, weather satellites, hydrometeorological support with naval bases, and coastal automatic and sea automatic buoy stations (fixed and drifting). Here, in the opinion of foreign specialists, the most valuable data come from weather reconnaissance aircraft and weather satellites. With the use of scanning-measurement equipment (optical, infrared, and microwave bands) it is possible to track the evolution of extra-tropical and tropical cyclones and local storms, evaluate cloud cover and the ice situation, determine the temperature of the underlying surface in a specific area, and calculate wind and pressure fields and vertical profiles of temperature and humidity in the atmosphere.

To obtain, process, transmit, and distribute information use is made of ISZ's [artificial Earth satellites] (low-orbital weather satellites--Tiros-N, NOAA, and DMSP, long-range oceanographic satellites--NOSS, and satellites for the study of natural resources--Landsat, experimental satellites for processing equipment--Nimbus, and geostationary weather satellites--SMS, Meteosat, and GMS), weather reconnaissance airplanes, and fixed (land-based) and mobile (ship, aircraft, motor-vehicle) stations for the reception and processing of data.

Information from the low-orbital weather satellites NOAA and Tiros-N is received in the storage mode by the reception stations located on Wallis Island, Virginia, Gilmore Creek, Alaska, Greenbelt, Maryland, and Goldstone, California as well as by the Air Force weather center at Offut Air Force Base, Nebraska. Then it is

transmitted over space- and land-based lines of communication to the center for the reception and processing of satellite hydrometeorological information in Suitland, Maryland.

In this same mode, stations at Offut and Carswell (Texas) Air Force Bases receive data from the DMSP satellite and their processing is accomplished in the Air Force Weather Center. After this, the information is sent to the Navy's center for digital weather forecasting in Monterey, California.

The indicated satellites also accomplish the direct transmission of information to the center for digital weather forecasting and naval regional weather forecasting centers on the island of Guam, in Pearl Harbor (the Hawaiian Islands), Norfolk, Virginia, and Rota, Spain and to weather stations at big naval bases, weather posts (more than 50), and mobile stations.

Data from the SMS, Meteosat, and GMS geostationary satellites which have arrived at reception stations located in the zone of their radio visibility are relayed after preliminary processing and conversion ("stretching out" for time, geometric correction, formation of the frame, annotation, and so forth) through the same satellites as well as through military and civilian communication satellites to weather centers in Suitland and Kansas City, (Missouri), Coral Gables, Florida, and Redwood City, California and to the Air Force Weather Center. Then, after additional processing and fragmentation by geographic areas, this information is transmitted to users over land and space lines of communication in the WEFAX (Weather Facsimile--the international standard for facsimile communication) format to the center for digital weather forecasting and naval regional weather forecasting centers, to weather posts and mobile naval stations, and to other subunits of the Department of Defense and civilian departments where it is subjected to special-purpose processing.

Information from the Nimbus and Landsat satellites (in prospect NOSS) also goes to a reception station at the Goddard Scientific Research Center. Then it is transmitted to the center for the processing of satellite hydrometeorological information at Suitland and, after this, to the naval center for digital weather forecasting in Monterey.

An important place in the system for the dissemination of weather information from weather reconnaissance aircraft is occupied by an automatic switch for digital weather data which is located at Carswell Air Force Base and which has direct communication with regional centers for the collection of weather information (Tokyo, London, Guam, Hawaiian Islands, Alaska, Puerto Rico, the Bermuda and Azore Islands, the Panama Canal Zone, and others). The switch is connected directly with the centers in Suitland and Monterey. Information which reaches it is then transmitted to the center for the processing of global weather data at Offut, after which it returns to the switch for subsequent transmission to users.

Operational aerial weather reconnaissance is accomplished by two squadrons of WC-130 E and H aircraft of the U.S. Air Force based at Anderson (Guam) and Keesler (Mississippi) Air Force Bases. A third squadron of WC-130H aircraft is part of the U.S. Air Force Reserve.

As stressed in the foreign press, two types of stations for the reception and processing of data from weather satellites exist: PDUS (Primary Data User Station) and SDUS (Secondary Data User Station).

The PDUS stations (fixed) receive data from geostationary weather satellites. Their equipment permits the processing of large masses of information in virtually real time (including the correction of geometric distortions, enlargement of photos and their fragmentation, the plotting of grids of geographic coordinates, shore lines, isotherms, and so forth), and transmitting it in the established format to the users through these same satellites.

The analysis of the images is accomplished in the interactive mode (operator-computer) with their subsequent display on a colored screen. The results of the processing are presented in the form of charts of cloud cover, temperature of the underlying surface, and wind as well as in the form of information about the vertical distribution of temperature and humidity in the atmosphere. In addition, it is used for further climatological processing.

The SDUS stations (fixed and mobile, see figure [not reproduced]) provide for the reception of information from low-orbital weather satellites in the form of black-and-white photographs, and from geostationary satellites--WEFAX fragments (each covers an area of 2500x2500 km with photography in the optical band and 4000x4000 km in the infrared band) and cloud-cover, temperature, humidity, and wind charts.

These stations are structured on the modular principle. They can contain devices for the automatic control of the antenna system and digital processing of the signal, a laser recorder, color display, tape recorder, and so forth.

It was reported in the foreign press that in 1978-1980 the U.S. Navy conducted tests of four PDUS-type stations and more than 20 SDUS-type stations.

Since 1970, the Navy has been developing shipborne means for the reception of information from weather satellites. The following can be accomplished with their use: the reception of data from Meteosat, SMS, and GMS satellites (in the form of WEFAX fragments), real-time processing of images, distinguishing contrasts, plotting isotherms, enlarging photos, correction of images, and the automatic plotting of a geographic grid and shore lines. Now aircraft carriers, in particular, are equipped with such means. PSRT, SROE, and AN/SMQ-6 stations which ensure the reception of data from weather satellites in the direct transmission mode are installed on them.

As Western military specialists believe, the effectiveness from the use of the information may be increased significantly through the introduction of means and methods for the automation of processing. For example, modified versions of the AN/SMQ-6 station contain a post for the automatic processing of data. Envisioned in addition is the input of the results obtained into the combat information-control system (BIUS) of the aircraft carrier as well as the display of information on collective-use devices at the air traffic control center, on the screen of the commander of the aviation department, and at other posts.

In their design, shipborne stations for the receipt of information from weather satellites do not differ fundamentally from mobile stations of other types.

They are located in a closed room and their antennas are mounted on the superstructure along both sides, which ensures stability in the reception of data immediately after the satellite appears from behind the horizon and prior to its departure.

According to reports in the foreign press, in the course of the further development of the process of providing the U.S. Navy with aerospace hydrometeorological information it is intended to accomplish the following measures: to standardize shipborne stations for the reception of data from satellites; develop equipment for the reception and processing of information with the use of electron-optical devices; introduce means for automated processing more widely; and improve means and methods for aerial weather reconnaissance.

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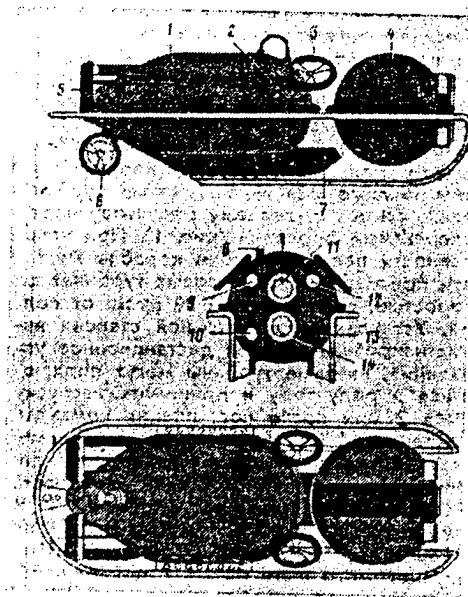
FOREIGN MILITARY AFFAIRS

ITALIAN UNDERWATER MINE-DETECTION DEVICE DESCRIBED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 59-60

[Article by Engr-Capt 1st Rank R. Mochalov: "Italian 'Pluto' Underwater Apparatus"]

[Text] Now, along with traditional means for combating mines--sweeps--remote control underwater apparatuses (PA) are being introduced in the navies of the capitalist states. For example, the Italian firm of (Gaimarin) has developed such an apparatus which has received the name Pluto and is intended for the search, classification, and destruction of bottom and anchored mines (see figure). It consists of two modules mounted on a frame of nonmagnetic stainless steel (their housings are made of fiber glass).



Italian Pluto underwater apparatus: 1- stern module; 2- depth sensor; 3, 5, and 6- screw propeller; 4- bow module; 7- explosive charge; 8- electronic flash tube which operates in the strobe mode; 9- electronic flash tube; 10 and 12- halogen tubes; 11- remote camera; 13- GAS [sonar station], 14- photo camera.

A television camera, two halogen lamps with a power of 75 watts each, a sonar station (GAS), magnetic compass, camera, and electronic flash tube are placed in the bow module which turns 240 degrees around the horizontal axis. The camera is equipped with an objective lens having a focal length of 12.5 mm (resolution 400 lines). The GAS has an operating range of 30 meters and operates on a frequency of 200 kHz.

Installed in the stern module are a power supply source, electronic control equipment, and four dc electric motors to turn the screw propellers arranged in two's in horizontal and vertical planes. To increase maneuverability of the apparatus a fifth motor with a propeller in the longitudinal plane is provided. Depending on the situation, the power supply source ensures the operation of the underwater apparatus for up to two hours. Recharging of the battery is permitted without its removal from the module or its replacement by a spare.

An explosive charge weighing 15 kilograms for the destruction of bottom mines is located in the lower part of the module. According to estimates of the firm's specialists, the high maneuverability of the underwater apparatus also permits its use for combating anchored mines. In this case, the explosive charge is replaced by a cartridge which is fastened to the mine mooring cable of the anchored mine and, after the withdrawal of the apparatus to a safe distance, it breaks it up.

The maximum operating radius of Pluto is 500 meters, and depth of search--300 meters. In the horizontal plane, the apparatus moves at a speed of four knots, and in the vertical--one knot. It is controlled from a portable control panel (300x300x400 mm) which is placed on the deck or in the deck house of the minesweeper. Displayed on the control panel is information which arrives from the underwater device (depth, course, level, range to the object being investigated, its image, angle of turn of the bow module, time of operation of the apparatus, status of the mechanism for separating the explosive charge, and other information). A computer, video recorder, and data display device can be connected to it. The apparatus is connected with the control panel by a coaxial cable (thickness 6 mm, length 500 meters, breaking stress 180 kilograms) with positive buoyancy.

After the ship's sonar detects a mine-like object, the underwater apparatus is lowered into the water and, on the operator's command, moves toward the target and examines it. If it proves to be a mine, the operator gives the signal to separate the explosive charge. As the firm's specialists note, 30 minutes are required for one operation to search for and destroy a mine: lowering--5 minutes, movement toward the target over a distance of 500 meters at a speed of 4 knots--4 minutes, search, classification, and separation of charge--10, return to ship's side--6, and lifting--5 minutes. Thus, one Pluto can conduct four mine search and destruction operations without replacing the battery.

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FOREIGN MILITARY AFFAIRS

COMBINED AND GAS TURBINE POWER PLANTS DESCRIBED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 60-66

[Article by Capt 1st Rank (Ret) Yu. Petrov: "Ships Combined and Gas Turbine Power Plants"]

[Text] The equipping of ships with new combat and technical equipment and the increase in their cruising range led to an increase in the displacement of ships and the power of their main power plants (GEU). Considering that the share of a ship's displacement and the volume allotted to them decreased simultaneously, old types of power plants could not satisfy contemporary requirements. Thus, the necessity arose for a GEU with a low specific weight and small overall dimensions, high power, high reliability, automation, and the possibility to replace entire assemblies. To a considerable degree, this was met by gas turbines which by that time had appeared in a good light in aviation and which also permitted their employment on a ship.

Until recently, foreign specialists experienced great difficulties in the creation of a fully-variable, highly-economical gas turbine power plant (GTU) of high power with the necessary service life. Considering the circumstance that for the major part of a ship's running time the GEU's operate on a power which is 30-40 percent of total, gas turbines began to be used as full-speed engines as part of combined power plants. Here, the cruising-speed plant should first of all be highly economical and have a considerable service life, and the full-speed plant should have low specific weight and the ability to be started quickly and develop full power. Gas turbines of foreign fleets have a specific weight of 0.3-1.0 kilograms per horsepower and a total power of 1,500-25,000 hp.

At present the following types of combined power plants are employed:

--COSAG (combined steam and gas turbine) (only the steam turbines operate in the cruising-speed mode; and full speed is provided by steam and gas turbines together);

--CODAG (combined diesel and gas turbine) (respectively: diesels alone; diesels and gas turbines together);

--CODOG (combined diesel or gas turbine) (diesels only; gas turbines only);

--COGOG (combined gas turbine or gas turbine) (only gas turbines).

The basic performance characteristics of ships and their GEU's are presented in Table 1, and the characteristics of ship gas turbines--in Table 2.

The first ships with combined power plants joined foreign navies at the end of the 1950's--beginning of the 1960's. They included frigates of the "Tribal" (Great Britain) and "Köln" (FRG) classes which were equipped respectively with COSAG and CODAG plants. The former received rather limited employment on ships of the British Navy alone and now are installed on guided missile (URO) cruisers of the "Bristol" and "County" classes. This is explained by their complexity and the necessity to have on board the ships various types of fuel and steam boilers having great volume and weight.

The power plants of the missile ship "Bristol" contain two steam boilers (steam parameters: $P=49.2 \text{ kg/cm}^2$, $t=510^\circ\text{C}$) and two each Olympus TM1A steam and gas turbines. The steam turbine unit of each side consists of high- and low- pressure turbines and a backing turbine which is placed in the housing of the low-pressure turbine. The gas turbines are connected to the propulsion reduction gear through a reversing gear (Figure 1). With malfunctioning of the steam turbines the ship may move with operating gas turbines at a speed which is 80 percent of full speed. The plant is automated to a sufficient degree and has remote control. The gas turbines can be connected to the reduction gear and be under load two minutes after receipt of the command.

Frigates of the "Köln" class are equipped with the CODAG plant. It consists of four diesel engines (total power 12,000 hp, specific weight 7 kg/hp) and two gas turbines with a power of up to 12,000 hp which operate with two controllably-pitch propellers (VRSh). In case of necessity, the ship's movement can be provided by the turbines alone or by one or two diesels which are connected using a coupling. The propellers with a controllable pitch permit the optimum use of the plant in various modes for its operation and moving the ship backward. The gas turbines, which were created on the basis of industrial models, have a high specific weight (about 6 kg/hp) and minimum frequency of rotation (40 percent of rated) which permits employing VRSh's on the ship. The unstressed mode for their operation provides a service life of about 20,000 hours.

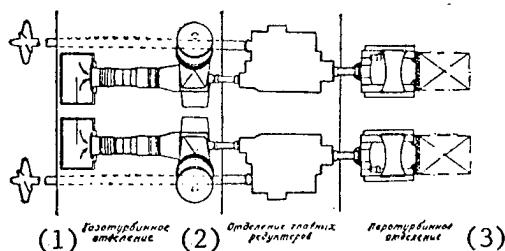


Fig. 1. Diagram of the Arrangement of the Main Power Plant of Guided Missile Cruiser "Bristol."

Key:

1. Gas turbine compartment	3. Steam turbine compartment
2. Propulsion reduction gear compartment	

Power is transmitted to the propeller from the GEU through the system shown schematically in Figure 2. Using fluid clutches and a spur gear the two diesels of each side are connected with two planetary reduction gears, one of which

is used with the operation of the diesels alone while the other is used with the joint operation of the diesels and gas turbines, each of which is connected with the propeller shaft also with the use of a reduction gear.

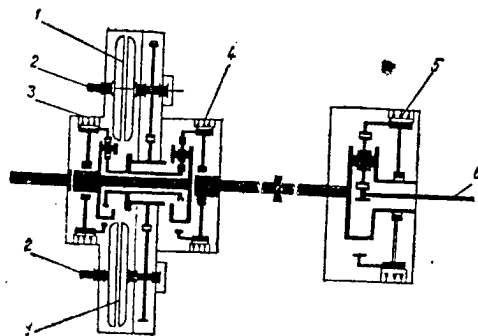


Fig. 2. Diagram of reduction gear transmission of the frigate "Köln": 1- fluid clutch; 2- diesel shaft; 3- full-speed clutch; 4- cruising-speed clutch; 5- clutch for connecting the gas turbine; 6- gas-turbine shaft.

The plant is remotely controlled from a central post and is prepared for operation and started up from posts located in the engine rooms. It can also be controlled from a control panel on the flying bridge. The reason for the insignificant spread of these plants was the complex kinematic scheme for the connection of the engines, reduction gears, and clutches and the complex control system. The relationship of the powers of cruising and full-speed engines is 0.6, and the total power of the gas turbines does not exceed 12,000 hp.

With the appearance of new gas turbines having a total power of up to 20,000-28,000 hp, plants of the CODOG type received wide dissemination on ships of foreign navies. One of their substantial advantages, in the opinion of foreign specialists, is contained in the simplicity of the kinematic scheme. Full speed is provided by gas turbines alone, and the diesels are cut off using overrunning clutches with the change-over from cruising speed to full speed. The relationships of the powers of engines which provide cruising speed and full speed are within narrow limits and do not exceed 22-24 percent. Controllable-pitch propellers are used on all ships with plants of the indicated type, which permits excluding the reverse-reduction gear from the scheme, simplifying it, and decreasing the weight and volume occupied.

Guided missile frigates of the "Bremen" (FRG), "Maestrale" and "Lupo" (Italy), and "Ishikari" and "Yubari" (Japan) types belong among the most modern ships equipped with CODOG combined power plants.

The twin-shaft power plant on ships of the "Bremen" type includes two LM2500 gas turbines with a power of 25,800 hp each. To increase endurance the gas turbines are placed in the forward compartment, and the diesels and propulsion reduction gear transmissions--in the adjacent stern compartment (Figure 3).

When designing guided missile frigates of the "Bremen" type (its prototype is the guided missile frigate "Kortenaer," the composition of the power plant was changed. Instead of the TM3B Olympus gas turbines, the LM2500 was selected since, according to data in the foreign press, its operating cost is less because of the higher temperature of the gas although it is more expensive. In addition, instead of the RM1C Tyne cruising speed turbine a diesel of the MTU firm was selected--cheaper to manufacture and operate. Power is transmitted from the gas turbine to the propeller shafts through a separate planetary reduction gear, self-synchronizing clutch, and propulsion reduction gear (through a single reduction gear), and from a diesel--through a similar fluid clutch and double-reduction gear. The diesel and gas turbines, which are turned on automatically, are separate modules which include air-receiving and gas exhaust devices. They are installed on sound-insulating supports on shock-resistant seats.

In guided missile frigates of the "Maestrale" class the GEU is located in three adjacent compartments: two twin-shaft LM2500 gas turbines of the General Electric Company are installed in the forward compartment, in the middle--two propulsion reduction gears, and in the stern compartment--two diesels of the GMT company. In its composition the plant belongs to the twin-shaft types (gas generator and free power turbine). The gas generator includes a 16-stage axial compressor, high-pressure double-stage turbine, annular combustion chamber with 30 nozzles, and an auxiliary reduction gear. A six-stage power turbine, having increased erosion and corrosion resistance, operates reliably under conditions of increased salinity and smokiness of the environment. Power is transmitted to the reduction gear through a mechanical self-synchronizing engagement clutch.

Special features of the diesels include the employment of two-stage supercharging and air cooling in them and a variable degree of compression. They are turned on for operation using a friction clutch.

Plants of the COGOG type were employed for the first time at the beginning of the 1970's in Canadian destroyers of the "Iroquois" class but began to be widely used in the second half of the 1970's. Guided missile destroyers of the "Sheffield" class, guided missile frigates of the "Amazon" and "Broadsword" classes (Great Britain), guided missile destroyers of the "Tromp" class and guided missile frigates of the "Kortenaer" class (the Netherlands), and guided missile destroyers of the "Hatsuyuki" class (Japan) are now equipped with them.

It is indicated in the foreign press that many foreign specialists do not see the special advantages of plants of the COGOG type in comparison with those examined above. An approximately equal number of ships of the destroyer and frigate classes were equipped with both of them during the same time period (second half of the 1970's--beginning of the 1980's). Favorable qualities of gas turbine plants include a lower weight and smaller overall dimensions, convenience in operation and repair, and the presence of only one type of engine on the ship. However, it is pointed out that the diesels, as more economical, have advantages over gas turbines in the cruising speed mode. The ratio of engine powers of the cruising and full speeds does not exceed 20 percent, which predetermines their exceptionally distinct operation since otherwise an insignificant increase in speed would be observed.

Table 1. Main Performance Characteristics of Ships and their Main Power Plants

Type of Ship (No.), Country, Years of Construction, Series	Displace- ment, t: <u>standard</u> Total	Speed, k: <u>Full</u> Cruising	Name of Power Plant	Type of Power Plant, No.x Power, hp	No. x Type <u>Propellers</u> Cruising Range at Cruising Speed, Miles
1	2	3	4	5	6
Ships with Steam-Gas Turbine GEU (COSAG)					
GM cruiser "Bristol" (1), Great Britain 1973	<u>6100</u> 7100	<u>28</u> 18	Olympus TM1A	GTU 2x15000 GT3A 2x15000	<u>2xVFSH</u> 5000
GM cruiser "County" (3), Great Britain, 1966-1970	<u>5440</u> 6200	<u>30</u> .	G6 .	GTU 4x7500 GT3A 2x15000	<u>2xVFSH</u> .
Ships with Diesel-Gas Turbine GEU (CODAG)					
Frigate "Köln" (4), FRG, 1961-1964	<u>2100</u> 2700	<u>28</u> 18	Brown- Boveri MAN firms	GTU 2x12000 DD 4x3000	<u>2xVRSh</u> 920 (28 k)
Ships with Diesel-Gas-Turbine GEU (CODOG)					
GM destroyer "Georges Leygues" (6), France, 1979-	<u>3830</u> 4170	<u>30</u> 18	Olympus, SEMT- Pielstick company	GTU 2x26000 DD 2x5200	<u>2xVRSh</u> 9500
GM frigate "Bremen" (6), FRG, 1982-	<u>.</u> 3415	<u>30</u> 18	LM2500 MTU firm	GTU 2x25800 DD 2x5200	<u>2xVRSh</u> 4000
GM frigate "Wielin- gen" (4), Belgium, 1978-	<u>1880</u> 2283	<u>29</u> 20	Olympus TM3B Cockerill firm	GTU 1x28000 DD2x3000	<u>2xVRSh</u> 4500
GM frigate "Maestrale" (8), Italy, 1982-	<u>2500</u> 3040	<u>32</u> 21	LM2500 GMT firm	GTU 2x25000 DD 2x5500	<u>2xVRSh</u> 4500 (16 k)
GM frigate "Ishikari" (1), Japan, 1981	<u>1250</u> .	<u>25</u> .	Olympus TM3B 6DRV	GTU 1x22500 DD 1x4700	<u>2xVRSh</u> .
Coast Guard cutter "Hamilton" (12, U.S., 1967-1972	<u>.</u> 3050	<u>29</u> 20	FT4A Fairbanks- Morse Co.	GTU 2x18000 DD 2x3500	<u>2xVRSh</u> 14000 (11 k)

Table 1 (Continued)

1	2	3	4	5	6
Hydrofoil GM boat "Pegasus" (6), U.S., 1977-1982	239.6	$\frac{48^1}{12^2}$	LM2500 MTU firm	GTU 1x18000 ¹ DD 2x800 ²	Waterjet 1700 (9 k)
Hydrofoil GM boat "Sparviero" (7), Italy, 1974-1983	62.5	$\frac{50^1}{8^2}$	Proteus GMT firm	GTU 1x4500 ¹ DD 1x160 ²	Waterjet; 1xVRSh on extensible columns <u>1200</u>

Ships with Gas Turbine GEU (COGOG)

GM Destroyer "Sheffield" (12) Great Britain, 1975-	$\frac{4100}{4600}$	$\frac{28-30}{18}$	Olympus TM3B GTU 2x28000 Tyne RM1A GTU 2x4250	$\frac{2xVRSh}{4000}$
Destroyer "Iroquois" (4), Canada, 1972- 1973	$\frac{.}{4700}$	$\frac{29}{20}$	FT4A2 GTU 2x25000 FT124H3 GTU 2x3700	$\frac{2xVRSh}{4500}$
GM destroyer "Hatsuyuki" (12), Japan, 1982-	$\frac{2950}{3700}$	$\frac{30}{.}$	Olympus TM3B GTU 2x22500 Tyne RM1C GTU 2x5340	$\frac{2xVRSh}{.}$
GM frigate "Broad- sword" (8), Great Britain, 1979-	$\frac{4200}{4800}$	$\frac{30}{18}$	Olympus TM3B GTU 2x28000 Tyne RM1A GTU 2x4250	$\frac{2xVRSh}{4500}$
GM frigate "Kor- tenaer" (10), Netherlands, 1978-1983	$\frac{3050}{3630}$	$\frac{30}{16}$	Olympus TM3B GTU 2x25000 Tyne RM1C GTU 2x4250	$\frac{2xVRSh}{4700}$

Ships with Gas Turbine GEU (all-mode)

ASW carrier "Invin- cible" (3), Great Britain, 1980-	$\frac{16000}{19500}$	$\frac{28}{18}$	Olympus TM3B GTU 4x28000	$\frac{2xVRSh}{5000}$
ASW carrier "Giuseppe Garibaldi" (1), Italy, 1985	$\frac{10100}{13370}$	$\frac{30}{20}$	LM2500 GTU 4x20000	$\frac{2xVRSh}{7000}$

¹On hydrofoils²In displacement mode

Table 1 (Concluded)

1	2	3	4	5	6
ASW carrier "Prince Asturias" (1), Spain, 1984	$\frac{14700}{\cdot}$	$\frac{26}{20}$	LM2500	GTU 2x23000	$\frac{1 \times \text{VRSh}}{7500}$
GM cruiser "Ticonderoga" (10), U.S., 1983-	$\frac{9600}{\cdot}$	$\frac{30}{20}$	LM2500	GTU 4x20000	$\frac{2 \times \text{VRSh}}{6000}$

On the overwhelming majority of the ships the Olympus TM3B is used as the full-speed turbine and the Tyne RM1A and RM1C as the cruising speed turbine. The composition, grouping, and operating principle of COGOG-type plants are examined using as an example those with which guided missile destroyers of the "Sheffield" class (Figure 4) are equipped. Similar GTU's are used on guided missile frigates of the "Amazon" class and on the first ships of the "Broadsword" series.

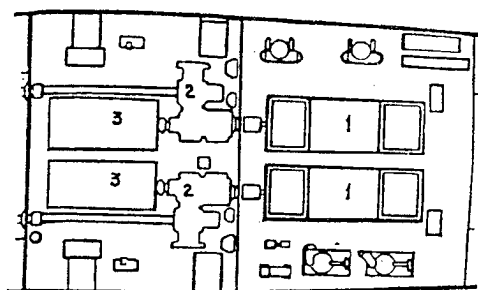


Fig. 3. Diagram of the arrangement of the power plant on the guided missile frigate "Bremen": 1- gas turbine; 2- propulsion reduction gear; 3- diesel.

Gas turbines operate on two five-blade controllable-pitch propellers which have been designed with consideration of requirements for increased shock-resistance and low noise. Each turbine rotates a propeller shaft through a double-reduction gear with splitting of the power and clutches. The air flow rate is 106.5 kg/s, and efficiency at maximum power is 28 percent and at 50-percent power--23.2 percent.

The gas generator includes a five-stage low-pressure compressor and seven-stage high-pressure compressor, two single-stage turbines, and a combustion chamber with eight injectors. The TM3B turbine is a modification of the TM1 (less power) which has operated for a long time on the guided missile cruiser "Bristol." Power was increased by installing cooled adjustable nozzles and turbine blades of a special alloy, which permitted increasing the gas temperature at the intake by 65 degrees. The GTU is delivered to the ship in the form of a module

consisting of three parts: gas generator, its air intake and housing, and power turbine with gas-exhaust pipe and housing. The gas generator is fastened on a cantilever and can be easily replaced through the air-intake pipe. The housing has a soundproof coating.

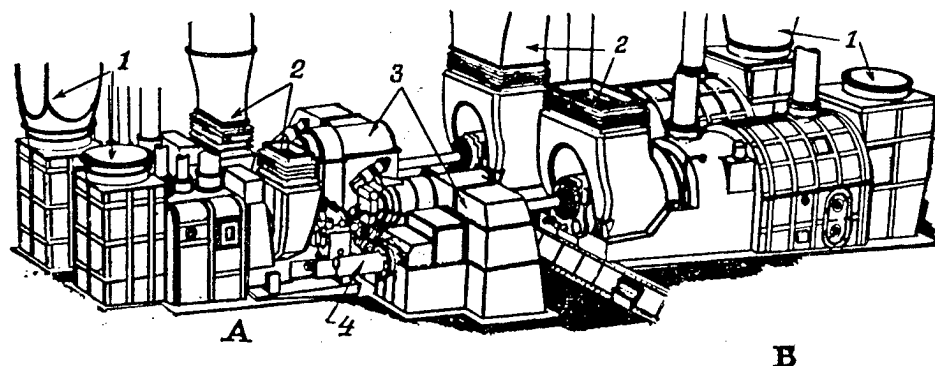


Fig. 4. Combined gas-gas turbine power plant (A- two Tyne RM1A cruising-speed gas turbines; B- two Olympus TM3B full-speed gas turbines): 1- air intakes; 2- gas-exhaust pipes; 3- reduction gears; 4- propeller shaft.

The efficiency of the RM1A turbines reaches 26.6 percent at maximum power and 22 percent at 50-percent power. The gas generator includes high- and low-pressure generators respectively with six and nine rows of blades and a combustion chamber with nine injectors. A primary reduction gear is installed in the forward part of the sustainer turbine module for the preliminary reduction in frequency of rotation of the power turbine to 3,650 r/min. The resistance of the ship power plants to corrosion and the impact- and explosion resistance of the hull construction and mechanical equipment were increased. The gas turbine modules are mounted on shock-absorbing supports.

The power plant can operate with the complete cut-off of electric power. For this, the oil pumps, hydraulic pump of the controllable-pitch propeller, and the outside-water circulation pumps have a drive through a hydraulic connecting clutch from one of the shafts of the reduction gear. There is one more pneumatic oil pump.

The automated system for control of the GEU includes three functional subsystems which provide respectively control of the gas turbines (starting, stopping, change in operating modes), the connecting-disconnecting gear (engaging and disengaging clutches and reduction gears), and controllable-pitch propellers (change in frequency of rotation, angle of rotation of the blades). It has eight control panels located on the bridge, in the central power plant control center (located on the second deck over the after engine room), and at local control posts at each of the four gas turbines and at the propulsion reduction gears.

Table 2. Basic Characteristics of Ships' Gas Turbines

Наименование турбины, фирма-изготовитель (1)	(2) Мощность, л. с.: максимальная	(4) Удельный расход топлива на максимальной мощности, г/л.с.ч	(6) Габариты, м: длина ширина высота	(7) Частота вращения турбины, об/мин
	длительная (3)	удельный вес, кг/ л. с. (5)	температура газа на входе турбины, °C (8)	
(17) США				
(9) LM2500, «Дженерал электрик»	27 500	190	8.1 ¹	3600
	21 500	0.79 (модуля) (20)	2.6 2.4	1200
(10) FT4A, «Пратт-Уитни»	25 000	250	8.7	.
	18 000	0.34	2.4 2.4	843
(10) FT4A2, «Пратт-Уитни»	30 000	230	.	.
	21 500	0.3	.	.
(18) Великобритания				
(11) «Олимпус» ТМЗВ, «Роллс-Ройс»	28 000	214	7.0 ¹	5660
	21 800	около 1 (21)	2.4 3.1	917
(13) «Спей» SM1A ² «Роллс-Ройс»	18 770	180	6.4 ¹	5250
	14 750	0.48	2.6 2.6	.
(14) «Тайн» RM1A, «Роллс-Ройс»	4250	221	5.5 ¹	13 500
	4250	3.32	2.1 2.0	877
(14) «Тайн» RM1C, «Роллс-Ройс»	5340	213	.	13 970
	5340	.	.	.
(15) G6, «Виккерс»	8250	345	6.7	.
	7500	2.46	.	793
(19) ФРГ				
(16) «Броун Бовери»	14 400	285	10	.
	12 000	около 6	.	720
(21)				

Key:

- | | |
|--|---------------------|
| 1. Designation of turbine, manufacturing company | 9. General Electric |
| 2. Power, hp: maximum | 10. Pratt-Whitney |
| 3. Continuous | 11. Olympus |
| 4. Specific fuel consumption at maximum power, g/l.s.h | 12. Rolls Royce |
| 5. Specific weight, kg/hp | 13. (Spey) |
| 6. Overall dimensions, m: length, width, height | 14. Tyne |
| 7. Turbine rotation frequency, r/min | 15. Vickers |
| 8. Gas temperature at turbine intake, °C | 16. Brown-Boveri |
| | 17. United States |
| | 18. Great Britain |
| | 19. FRG |
| | 20. Module |
| | 21. About |

¹ Overall dimensions of module.

² Intended for installation on GM frigates of the "Broadsword" class planned for construction.

The entire GEU is arranged in four compartments: the forward and stern auxiliary machinery rooms--each two diesel generators with a power of 1000 kW each, in the forward machinery compartment--two full-speed gas turbines, and in the stern machinery room--two cruising-speed turbines and two reduction gears.

On guided missile frigates of the "Broadsword" class, beginning with the 11th ship of the series, instead of the Olympus TM3B full-speed turbine it is planned to install the new (Spey) SMI A gas turbines which, according to data in the foreign press, are more economical. With continuous power their efficiency is 34 percent. The gas turbine power plant is twin-shaft with a two-stage power turbine and gas generator (weight 1,400 kilograms) which can easily be replaced during maintenance. The plant's module (weight 14.75 tons, size 6.4x2.6x2.6 meters), which includes the power turbine, gas generator, and air-intake and gas-exhaust pipes, is sound insulated and fastened on shock-absorbing supports. The propulsion reduction gear directly adjoins it.

All-mode gas turbine power plants having steady power are used on ships with large displacement for the cruising speed of which it is required to generate great power. They were used for the first time abroad on American destroyers of the "Spruance" class and are now also widely used on U.S. Navy ships of other classes and on ships of other countries.

Two each LM2500 gas turbine power plants work on two shafts with controllable-pitch propellers through a two-stage non-reverse-reduction gear with split power with a common transmission ratio of 21.4:1 and clutch couplings. The controllable-pitch propeller with a diameter of 5.2 meters and increased shock resistance at full power rotates at a frequency of 168 revolutions per minute. The plant is twin-shaft with an annular combustion chamber having 30 nozzles. With high gas temperature at the turbine intake (1,200°C) its efficiency is 36 percent. The LM2500 power plant includes a 16-stage compressor, a two-stage high-pressure turbine with cooled blades, and a six-stage low-pressure turbine. The levels of structural and air noise are reduced in the propulsion reduction gear. In the plant on the right side the gas turbines are arranged in the direction of the stern away from the reduction gear for rotation of the screw propellers in the opposite direction.

Each gas turbine power plant is a single unit with air-intake and gas-exhaust pipes installed on acoustic insulating foundations and shock-absorbing supports.

The entire GEU occupies four compartments along the length of the ship. The first and fourth contain the gas turbines with the reduction gears, and the second and third--auxiliary equipment. The total power of the gas turbine plant (from the cold state) is attained in 12 minutes. Destroyers of the "Spruance" class became the first ships with GEU's which operate on distillate fuel.

Used in the power plant of the Italian cruiser "Guiseppe Garibaldi" are LM2500 turbines made by the Fiat Company and a propeller with fixed pitch (VFSh) whose efficiency, according to data in the foreign press, is two-four percent higher than that of the controllable-pitch propeller. However, this required a complex reversible system for the transmission of power to the screw propeller. The GEU is placed just as on the destroyer "Spruance."

On the carrier "Invincible," four TM3B gas turbines which operate in pairs using a controllable pitch propeller through a reverse-reduction gear (Figure 5) are used as the main engines.

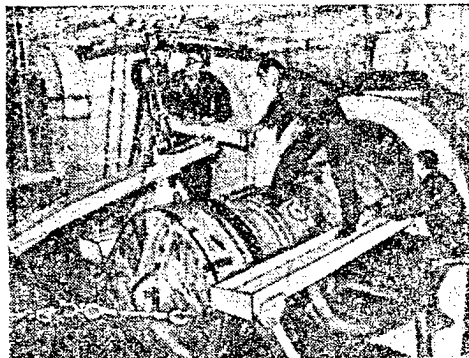


Fig. 3. Repair of Olympus TM3B Gas Turbine Plant of ASW Carrier "Invincible."

Gas turbine plants which are the lightest are used as the main engines in the mode of movement on hydrofoils on guided missile boats of the "Pegasus" and "Sparviero" classes. In the displacement mode movement is provided by diesels. On American boats the LM2500 gas turbine operates on a two-stage pump of a water-jet propeller with a delivery of 340 cubic meters per minute. The water is drawn in through the stern hydrofoils, goes to the pump through their hollow struts, and is ejected through a transom. For movement in the water displacement mode two water-jet propellers with rotatable nozzles and a reversion flap are also used.

In the Italian boat at full speed the Proteus gas turbine also operates using a centrifugal pump of a water-jet propeller with a delivery of 106 cubic meters per minute which ejects water through dual nozzles located in the hull below the pump. Used for movement in the displacement mode is a diesel which, through an angle-drive transmission, puts into rotation a screw propeller installed on a hinged rotatable column.

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FOREIGN MILITARY AFFAIRS

BRITISH IMPROVEMENTS IN ELECTRONIC WARFARE DISCUSSED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) pp 66-69

[Article by Engr-Capt 2d Rank (Res) F. Voroytskiy, candidate of technical sciences: "Improvement of British Ships' EW Equipment"]

[Text] The naval forces played the decisive role in the open armed conflict between Great Britain and Argentina for the restoration of colonial status over the Falkland (Malvinas) Islands by the British ruling circles. Foreign military specialists are continuing to analyze thoroughly the experience of combat operations in the Atlantic. This is shown by the numerous recommendations for the development of armaments and technical equipment for the navies of various NATO countries, first of all of Great Britain and the United States, being given on the basis of the results in employing electronic warfare (EW) equipment in the course of the conflict. These recommendations, as the Western press reports, are also being considered when developing new models of jamming equipment.

The basic facts which characterize the effectiveness and special features in the use of EW means by the British Navy in the Falkland Islands are presented below.

In the opinion of foreign specialists, the greatest danger for ships of the British Navy is presented by guided missiles (GM) with radar homing heads (GSN). Although the Argentinians launched only four Exocet guided missiles of French production with such radar homing heads (three aviation based and one land-based), three launchings were concluded successfully: the container carrier "Atlantic Conveyor" (with combat equipment and other military cargoes on board) and the guided missile destroyer "Sheffield" were sunk and the guided missile cruiser "Glamorgan" received heavy damage. One guided missile was deflected from the target by jamming and fell into the sea.

It is noted in the press that the ships "Sheffield" and "Glamorgan" were not protected by jamming at the moment of being hit, and the container carrier "Atlantic Conveyor" was destroyed as a result of the rearming of an AM-39 Exocet missile which had been fired at the carrier "Invincible" (in accordance with other data, at the carrier "Hermes"). Under the simultaneous influence of active and passive jamming, the missile turned to the right and locked on the next big target located five-six kilometers from the aircraft carrier--the container carrier. It was destroyed at the moment when a cloud of chaff had just been formed and could not protect it. Later, the British Navy lost two more landing ships because the cloud of chaff which covered them drifted away.

According to reports in the foreign press, the Argentinians also fired Roland surface-to-air missiles (produced jointly by France and the FRG) at various aircraft including the Vulcan and the Sea Harrier; however, the missiles did not hit the targets. This is explained by the fact that in the course of the attack the Vulcan bombers created active jamming which effectively suppressed the operation of the land-based antiaircraft fire control radar Fliedermaus produced by the FRG (active jammers had been shifted to them from Buccaneer airplanes) and the Sea Harriers were equipped with stations for warning of radar illumination and means for laying down chaff which had been installed in the tail portion of the aircraft fuselages. However, one aircraft was shot down by a missile and, as Western specialists suppose, it was a short-range Blowpipe guided missile with a radio command guidance system.

It is noted that due to the absence of aviation electronic early warning equipment as well as shipborne means for electronic intelligence on the launchings of guided missiles, the laying down of chaff was conducted almost continuously regardless of whether ships were subjected to attack or it was only presumed that they would be attacked. This led to a considerable overexpenditure of ammunition with passive jamming means and their insufficiently effective use. As foreign specialists point out, the Corvus EW system which provided for the laying of chaff clouds at a range of up to two kilometers from the chaff-laying ship operated faultlessly. However, it was learned that it is necessary to modify it substantially--to provide for protection not only against guided missiles with radar guidance, but also against weapons with infrared [IR] and laser guidance and to automate the control of this system.

The Plessey Company intends to realize increased requirements imposed on ships' equipment for laying down passive jamming with the development of the new "Shield" system (Figure 1). Free rockets (NUR) of this system should be filled with chaff of the 8-18 GHz band, infrared decoys (IK LTs) which simulate the radiation of large ships, decoys for antiradar guided missiles which are guided from the radiation of a ship's radar antennas, and laser decoys (in the latest modifications). An increase in the effectiveness of Shield is ensured by the transition to semiautomatic fire control and the accuracy of the spatial formation of the jamming cloud as well as by the presence of an aerodynamic system for scattering the chaff which increase the percentage of its utilization to 95 (in comparison with 45 in the Corvus system. To lay down IR decoys it is intended to employ free rockets with seven charges which simulate specific heat radiation. The programmed firing of the charges will correspond to the actual distribution of the ship's temperature zones. The production and deployment of the new system on ships of the basic classes is planned for 1985.

Even more improved will be the Sybil system developed jointly by the Sperry (Great Britain) and Brandt (France) Companies. It consists of two variants of free rockets: caliber 170 mm for ships of small displacement and 263 mm for ships of the basic classes. The rockets' firing range is up to 8.5 kilometers. The Sybil free rocket system will contain six variations of filling (Figure 2):

--a miniature radar transmitter-simulator to lead away the antiradar guided missile (turned on after water impact);

--an outboard active jamming transmitter with remote control which is similar to the first variant in design and principles for combat employment;

--combined decoys of short-term action (chaff and IR decoys are used in one charge; the brief action is from the moment of ejection to water impact, but above the ship or at a distance of no more than 8.5 kilometers);

--combined (radar-infrared) decoy with long action after water impact (Figure 3);

--a decoy for guided missiles with infrared homing heads in the form of an air balloon filled with heated gas (the time of its effective action is 30-40 minutes);

--a screening curtain for use against guided missiles which are equipped with IR, television, or laser homing heads which is created by one free rocket with eight charges filled with aerosols (smokes) which absorb optical radiation right up to 14 μm (the charges have time fuzes).



Fig. 1. Control Panel of Shield System.

Sybil has an automatic mode of control from ship subsystems (Figure 4) which ensures its operation. Also envisioned is a manual variant for controlling jamming from control panels installed in the combat information center and at the ship's main control station.

In addition to automata, the equipment for control of the system includes a data processing computer and means for the display of information on the loading of the launchers (PU). It ensures stabilization of the launcher, selection of the type of jamming, pre-launch preparation of the system, and control of the launcher complex. On the basis of data on the ship's present coordinates, wind direction, and flight of the guided missile it calculates the optimum conditions for jamming, the angle of turn of the missile launcher for azimuth and elevation angle, setting the time of selection (turn-on) of the jamming, and the moment for launching the missiles. Prior to the launching of the next free rocket, the jamming parameters are automatically corrected and recommendations are put out for the maneuver of the ship to move it out of the probable zone of destruction.

The Sybil launcher unit is stabilized in two axes and can turn in azimuth within limits of 360 degrees and for elevation angle from -20 to +80 degrees. In the

variant for ships of small displacement the missile launcher has four launching rails which are loaded manually directly prior to battle (Figure 5), and for ships of the main classes--12 and can be loaded automatically. It is intended to place two launchers on the ship (on the starboard and port sides). Aircraft carriers and other ships of large displacement may be equipped with additional launchers.

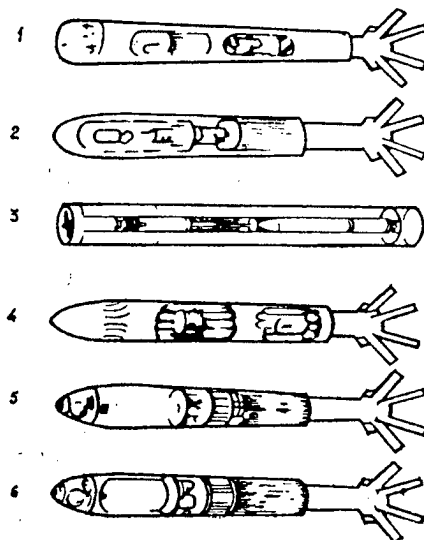


Fig. 2. Missiles of the Sybil system filled with means for jamming in different variants: 1- simulator of ships' radar; 2- outboard station for active jamming with remote control; 3- screening curtain of aerosol-forming material which absorbs radiation of the optical band of the frequency spectrum; 4- combined decoy on the basis of chaff and IR radiation sources; 5- combined (radar-infrared) long-action decoy; 6- decoy in the form of air balloons filled with heated gas.

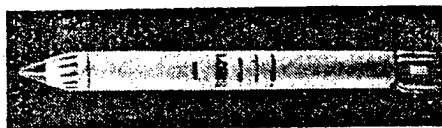


Fig. 3. Combined (Radar-Infrared) Long-Action Decoy.

A test model of the Sybil system is now being tested. Its adoption in the inventory is expected at the end of 1984--beginning of 1985.

The British Navy is also developing new stations for electronic intelligence and warning of the radar illumination of ships and ships' active jamming stations. As noted in the foreign press, these means are distinguished primarily by a higher degree of automation and also by the fact that they are linked with other ships' complexes.

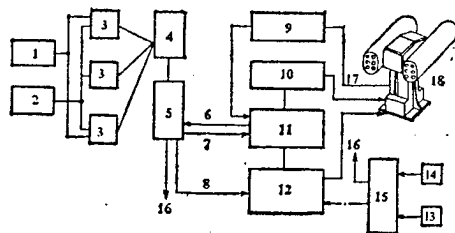


Fig. 4. Block diagram of Sybil control system: 1- radar for the detection of aerial and surface targets; 2- other ships' means for technical observation; 3- units for processing data on detection of enemy targets (air, surface, underwater); 4- means for display of detected targets; 5- equipment module for evaluating data on the enemy and automatic control of ship's surface-to-air missile complex; 6- line for transmission of data on results of target distribution by degree of threat; 7- line for transmission of data on nature of targets; 8- line for transmission of data on bearing and range to each target; 9- indicator of status of jamming equipment; 10- manual control unit; 11- equipment module for evaluating data on enemy and automatic control of jamming; 12- unit for collection and processing of information on spatial distribution of targets; 13- unit for formation of data on course and position of ship; 14- log; 15- unit for relay of data of ship's weapons control system; 16- line of communication with other weapons control systems; 17- line for transmission of jamming control commands; 18- launcher of Sybil system.

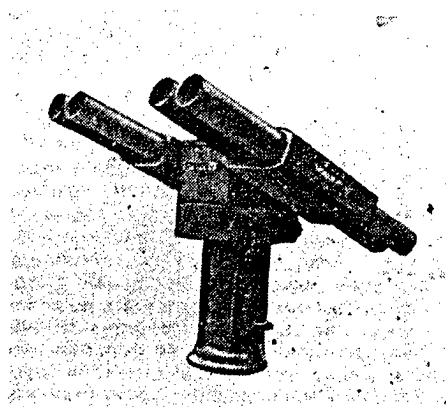


Fig. 5. Test Model of Sybil System Launcher for Ships of Small Displacement.

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FOREIGN MILITARY AFFAIRS

NEW U.S. SHIPS' RADAR DESCRIBED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 4, Apr 84 (signed to press 11 Apr 84) p 74

[Article by Capt 2d Rank (Res) V. Malov: "New Ships' Radar"]

[Text] In 1982, a new two-coordinate radar for the detection of surface and low-flying targets, the AN/SPS-67 (V) of the Norden Systems Company, began to reach the U.S. Navy (first of all, to equip cruisers and destroyers under construction). It will replace the AN/SPS-10 station created 30 years ago and which is in the inventory of the majority of ships' classes. The radar operates in the 3-centimeter band, its pulse-repetition frequency is 300-1,500 Hz, their duration is 1.0, 0.25, and 0.1 μ s, pulse power up to 300 kW, and antenna rotation speed 19 revolutions per minute. The radar includes a transceiver, video processor, control unit and built-in monitoring unit, emergency switch, and antenna-feeder system.

The AN/SPS-67 (V) is the first ships' station in the U.S. Navy in which interchangeable units of standard electronic modules and solid-state circuits are used. It is stressed in the foreign press that thanks to the continuously operating built-in monitoring system and interchangeable units the radar is distinguished by high reliability, ease of repair and short repair time, and does not require highly qualified maintenance personnel. With the failure of any of the standard modules it automatically shuts off and a signal of its malfunction is given. The station is put back into operation by the simple replacement of a unit. The solid-state circuits and modules used in the radar reduced its dimensions and weight considerably.

The antenna from the AN/SPS-10 radar is employed in the station. With operation in a mode where the pulse duration is 0.1 μ s, higher resolution is provided for the detection of small targets and there is a considerably smaller blind area than with the AN/SPS-10 radar. This mode is used for navigation in narrow passages and the water areas of ports so that it would be possible to detect navigation buoys and small objects at short distances.

The radar is controlled using a digital computer in semiautomatic and automatic modes. Digital processing of the signals raises its antijamming capability since it ensures the suppression of noise with the reflection of signals from the sea surface and emissions from radars operating close by as well as intentional

enemy jamming. Only blips from real targets light up on the scope. Used in the station are units from the modernized AN/SPS-40 aerial-target detection radar which permits detecting moving targets virtually instantaneously, accomplishing their selection, and tracking them. Panels of plasma devices for the display of data and an automatic device for programm coupling with the ship's BIUS [combat information-control system] have been developed for the new radar.

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